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BOUGHT WITH
THE INCOME FROM
THE BEQUEST OF
CHARLES MINOT,
OF SOMERVILLE,
(Class of 1828.)

8 March, 1884.



the 1990s, the number of people with a diagnosis of schizophrenia has increased in the United Kingdom (Meltzer and Peck 1998). The prevalence of schizophrenia in the United Kingdom is estimated to be 1.2% (Meltzer and Peck 1998).

There is a growing awareness of the need to improve the lives of people with schizophrenia. The United Kingdom has a number of national strategies for mental health care, including the 1998 *Mental Health Act* (MHA) and the 1999 *Mental Health Strategy* (MHS). The MHA and MHS both emphasize the need to improve the lives of people with mental health problems, and to ensure that they are treated in a humane and effective manner. The MHS also emphasizes the need to improve the lives of people with mental health problems, and to ensure that they are treated in a humane and effective manner.

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THE HIGH ALPS OF NEW ZEALAND.





"At 5.30 it was sufficiently light to make a move."—P. 260.

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THE
HIGH ALPS OF NEW ZEALAND

OR
A TRIP TO THE GLACIERS OF THE ANTIPODES
WITH AN ASCENT OF MOUNT COOK

BY
WILLIAM SPOTSWOOD GREEN, M.A.

MEMBER OF THE ENGLISH ALPINE CLUB

London
MACMILLAN AND CO.
1883

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~~I, 1842~~

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MAR 8 1884

Isinet de

LONDON:
R. CLAY SONS, AND TAYLOR,
BREAD STREET HILL.

I Dedicate this Book

TO

MY WIFE.

PREFACE.

A BRIEF account of my trip to the Southern Alps has already appeared in the *Transactions* of the Royal Irish Academy and also in the *Alpine Journal*. But friends in New Zealand and at home, thinking that my narrative would be interesting to a larger circle of readers, urged me to publish it in a more accessible form. I therefore took the papers, above referred to, again in hand; and by revising, expanding and correcting them, my story has assumed its present dimensions.

I have had no little difficulty in selecting a title for my book. The one first chosen was rejected by my publishers as unintelligible; the name it now bears seems to me to mean too much.

It may be said that I have claimed the ascent of Mount Cook, without having set foot on the actual summit. Be it so—I shall willingly relinquish any

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such claims to the man who passes the point where we turned. At the same time, I believe that we discovered what is probably the only practicable line of ascent from the great Tasman glacier, and accounted for all its difficulties.

As this book may possibly fall into the hands of those who are not acquainted with glacier phenomena I have added a short Appendix, explaining any technical terms which I have found it necessary to use.

W. S. G.

CARRIGALINE, *Oct.* 1883.

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THE HIGH ALPS OF NEW ZEALAND.

THE HIGH ALPS OF NEW ZEALAND.

CHAPTER I.

"Are not the mountains, waves, and skies, a part
Of me and of my soul, as I of them?
Is not the love of these deep in my heart
With a pure passion?"

BYRON.

Introductory.—My companions, Ulrich Kaufmann and Emil Boss.—
Our outfit.

"WHAT put it into your head to go to New Zealand?" is a question I am constantly asked, and I reply, "I wished to see the colony." But though this is perfectly true I find it does not always satisfy the inquirer, so in this chapter I have undertaken to give a full answer to the question. Should it, however, possess no interest for the reader, it may be passed over, as my narrative really commences at Chapter II.

Furthermore, the whole of this book may be looked upon as an answer to this question, and if the result of its perusal is to cause my inquisitors to change

their query into : " Why is it that more people do not go to New Zealand ? " I shall consider that I have said my say successfully.

Every human action is the result of two contingencies. In the first place there must be the inward desire, and, secondly, there must be a combination of circumstances which will enable that desire to become action.

Now, with regard to the desire, all I can say is that I have always had a strong love of adventure combined with a deep interest in the practical side of natural science, or what I might call a love of *wild sport*, taking that term in its widest significance.

For I hold that the essence of all true sport consists in the pleasurable feelings experienced when natural difficulties, whatever they may be, are overcome by skill. The greater the difficulty the greater the adventure, and the greater the pleasure in conquering it. The pleasure a man experiences in fox hunting, salmon fishing, grouse shooting, tiger slaying, depends upon his overcoming by skill the natural cunning, agility or ferocity of a wild animal, and the pleasure is enhanced by the healthy emulation between man and man, by the bracing exercise, or the beauty of the scenes with which such sports are associated.

Similar pleasure is experienced by the men, who, setting themselves to face the difficulties of Arctic travel, triumph over those difficulties amidst the sublime

surroundings of vast polar wastes. Similar difficulties are encountered and overcome by skill in ascending the higher peaks of the world's great mountain chains, where again the pleasurable feelings are increased by the buoyant air, invigorating exercise, and grandeur of the natural scenery.

Once more—the pleasure of yachting essentially consists in overcoming the difficulties caused by winds, waves, and currents; mind and body are healthfully occupied; and what more enchanting natural objects can one behold than the blue waves of summer, or the dark stormy ocean “when the surge is seething free?”

This desire to overcome difficulty is the real inherent power of the dominant races of mankind. Most men of our race feel it in some degree. The outward form it assumes, is, I believe, determined by the circumstances of a man's life.

In early life circumstances led to my finding the fulfilment of these desires on the sea, while in its depths lay those treasures of beautiful natural forms which I sought to bring to light with the dredge and the trawl, and amongst the brightest moments of the past I look back upon those occasions, when, after hauling in some hundred fathoms of trawl warp my eyes first beheld a rare creature, whose form I had long hoped to find. Though the tedium of long ocean voyages has somewhat damped the ardour of my attachment, the old love now and then re-asserts itself, and the

longing for "a life on the ocean wave" rises like the spectre of some former existence.

In 1869 a friend induced me to join him in a six weeks' trip to Switzerland, and so relinquish the cruises about which I had built castles in the air during the long evenings of university study. My friend was unfortunately taken ill at Grindelwald, so I had to go on alone, and after being driven back from the Alphubel Joch by a blinding snow-storm, and thwarted in my intended ascent of Monte Rosa by my guides burning the soles off the only pair of boots I possessed on the stove at the Riffelberg, I returned home feeling that a whole new world had opened out before me.

All the next winter my mind was full of plans of ascents possible and impossible; and when summer came round it found me on the glaciers with two companions whose interest I had awakened in Alpine expeditions.

Then came the craving to get to mountain ranges hitherto unexplored, to glaciers as yet untrodden by human foot. A trip to Norway, combining a scramble amongst the peaks of the Lofoden Islands, was only a partial satisfaction. I thought of South America, and I thought of New Zealand; I procured the best maps of their mountain chains, and tried to start on an expedition to explore them. But circumstances were against me, and so I returned to Switzerland once

more. This time, however, my pleasure was brought to a sudden termination by a deplorable accident by which my friend and companion lost his life. I had to return home alone, and with what I then believed to be a firm resolution never again to set foot on the sad Alpine snows. For five long years I kept to this resolve, except for one non-climbing visit to the Engadine. Meanwhile wishing to see for myself the grand scenes of nature in quite another form I wandered off to the tropical forests of the New World, but unfortunately there contracted fever and ague that I could not shake off, till once more, in 1879, I returned to the Alps, where the crisp bracing air of the glaciers gave me the relief which I sought. With renewed health came back the old Alpine longings in all their former strength. I thought of trying some of the peaks of the Andes, taking those between the Argentine Republic, and Chili, as Mr. Whympers was exhaustively exploring the mysteries of the more northern part of that chain. The peaks of New Zealand possessed many attractions, but I could not then find out enough about them to make any definite plans, and not particularly thinking of New Zealand or any other mountain range it happened that in 1881 I was present at the Jubilee 'meeting of the British Association at York. Amongst the many interesting objects exhibited was a set of photographs in the geographical section by a gentleman lately returned

from New Zealand, who also gave some account of his travels, and here, for the first time, I had an opportunity of studying the aspect of Mount Cook and one or two other peaks of the Southern Alps of New Zealand. In many ways these photographs were unsatisfactory, but they showed me enough to convince me that Mount Cook was a splendid peak, and his conquest well worth the trouble of the long journey. Other circumstances rendered it advisable for me to avoid the winter in the south of Ireland. So I made up my mind that now was the very time for this expedition to the Antipodes.

I had learned by experience the importance of obtaining all the information possible about the places I should visit, before starting, having several times found, when too late, that books were in existence which would have helped me immensely, and saved me from the mistakes which one makes when puzzling out matters for one's self. I therefore set to work to hunt up all available information about New Zealand, explored the library of the Royal Geographical Society, and was fortunate in finding there Dr. von Haast's work on the geology of Canterbury and Westland. I procured a copy, and this book proved invaluable to me in estimating the nature of the work to be expected in New Zealand Alpine exploration. One fact impressed upon me in the course of these studies was that there were serious difficulties of a mountaineering

character to overcome, and therefore if I wished to insure success I must have help such as could not be found in the colony. I immediately entered into correspondence with Emil Boss, of the Hôtel de l'Ours, Grindelwald, asking him to induce one of the Oberland guides to accompany me. He arranged at once with Ulrich Kaufmann, who was ready and more than willing to undertake the adventure, and Boss himself being a keen mountaineer volunteered to accompany us. Nothing could be more satisfactory than this arrangement, so I determined to start by the end of October, and devoted the meantime to arranging and perfecting an outfit.

I had one tent seven feet by seven and six feet high, made of strong duck, which had seen some service, but which I had from time to time altered, so that it was now all that could be desired. It was of the simplest pattern possible, supported by two upright poles from which two hammocks were slung one over the other, leaving room for one or two cork mattresses on the ground. A ridge pole, however slight, was an advantage when the hammocks were slung, as it helped to keep the poles apart; and as I had often pitched it where pegs could not be driven, I attached a flap to the lower edge of the walls on which stones could be placed to keep all firm.

Another tent similar to this, but eighteen inches longer, I borrowed from a friend, and I constructed a third

tent of calico steeped in linseed oil, on the plan of Mr. Whympers' macintosh "Alpine tent," having a floor attached permanently to the sides, and one end closed. Four slight poles run down through wide hems in the corners kept it erect and spread at the same time without the need of pegs. It measured seven feet by six on the floor, and weighed thirteen pounds. As hammocks could not be slung in this tent I had three sleeping-bags made of felt—a material better suited for this purpose than flannel, and particularly light when dry. A strong macintosh sheet eight feet by five, a lighter sheet of oiled calico, a supply of blankets to which I afterwards added an opossum rug, all packed, like the tents, into canvas bags, oiled and painted, and of a size convenient for attaching to pack saddles, and then our sleeping arrangements were complete. At Silver's in London I procured a particularly handy camping canteen planned for three persons, and also purchased a little spirit-lamp and saucepan cuisine for mountain expeditions.

Since the invention of the dry-plate process, photography has become such a help to the traveller who desires to preserve a faithful record of the scenes passed through, that though I had not heretofore practised the art, I provided myself with a small camera and four dark slides to hold eight gelatine plates $4\frac{1}{4}$ inch by $3\frac{1}{4}$, one hundred and fifty plates, and chemicals for developing. A few attempts on the outward voyage enabled me to

conquer the first difficulties, but I lost much through lack of experience.

Besides my old ice-axe, which had been my companion on many a mountain peak, I got a second in case of one being lost. An Alpine Club rope of sixty feet, and a slighter rope of equal length, were packed with the tent ropes, but held sacred for purely mountaineering purposes. A new aneroid barometer graduated down to fifteen inches, and other instruments made by Negretti and Zambra, with books, drawing materials, and ordinary personal gear, completed my outfit.

The difficulty of arranging for the proper carrying on of the ordinary business of life has deterred many of our most enthusiastic mountaineers from attempting those interesting fields for exploration which are to be found in every quarter of the globe. This difficulty is greatly increased by the fact that mountain regions, like Arctic regions, can only be approached in their own particular seasons, and these seasons often coincide with the busiest time of the year.

If the Alpine Club was recruited from the idler ranks of society this difficulty would not exist; but it is a fact worthy of notice, and one of which our members should be proud, that our best climbers are to be found amongst men who are most diligent in business and most active in taking their share in the work of life.

I at length succeeded in making an arrangement which would enable me to be absent from home for

six months. It was a short time for such a long journey, but if all went well I calculated on having at the least two months in the New Zealand mountains.

Owing to the uncertainty of my plans I was obliged to postpone taking my passage to the last moment, and then found that the Orient steamer *Garonne*, which was to sail from Plymouth on November 12th, was so crowded that only one berth was available; this I secured for myself, and took passages for Boss and Kaufmann in the *Lusitania* which should sail a fortnight later.

The *Garonne* was to go out round the Cape; the *Lusitania* by the Suez Canal, and as she was to call at Naples, I directed Boss to join her at that port.

CHAPTER II.

Five girdles bind the skies, the torrid Zone
Glow with the passing and repassing Sun.
Far on the right and left, th' extremes of Heav'n
To Frosts and Snows, and bitter Blasts are giv'n,
Betwixt the midst and these, the Gods assign'd
Two habitable seats for Human Kind.

DRYDEN'S *Virgil*.

The *Garonne*.—Our misfortunes.—The Cape.—High southern latitudes.

ON the night of November 11th I arrived at the Duke of Cornwall Hotel, Plymouth, and next morning proceeded on board the *Garonne*, which lay at anchor inside the breakwater.

The weather was wonderfully fine for the season of the year, and the crimson sunset as we steamed out to sea augured well for a favourable voyage.

When abreast of Portugal we found that we had left the chill winds of winter behind us. A few days later the trade wind began to help us along, and one fine balmy evening we passed close by the western cliffs of Madeira. Though the *Garonne* had not the name of

being a fast ship we did our 300 miles per day when the breeze was strong. Thus, between reading, lounging, eating, drinking and sleeping, we had got through nine days of our voyage, each of which, from the monotony, seemed a week long, when, on the morning of the 21st, I was aroused before daylight by the stopping of the screw. We were among the Cape Verde Islands, 2,252 miles from Plymouth, and had to wait for the sunrise in order to find our way. We had not a long delay, the mists cleared off, showing black jagged mountain peaks, white surf, and the rosy dawn just warming the sky. The short tropical twilight was quickly followed by the day, and at 8 A.M. we let go our anchor in the land-locked basin of St. Vincent.

The scenery was peculiar, as, with the exception of a very little grass and a very few bushes, the mountain sides and level valleys seemed perfectly barren—red volcanic and white coral sand and black basaltic rock giving the place all the colour it possessed.

The harbour is an old volcanic crater, and the rugged mountains all around show in their steep faces the most splendid sections of deposits of ashes, alternating with floods of lava.

No sooner was our anchor down than swarms of boats flocked to us from shore, bearing loads of bananas, oranges, shells, &c.—the fruits being the products of the large island of San Antonio which was dimly visible to the westward. The bright sunshine, the

nigger boys diving for sixpences, all reminded me of the West Indies, but the want of vegetation was only rendered more striking by the attempt to grow a few weather-beaten cocoanut palms and tamarinds on the town promenade.

I went on shore with a friend, but a dissipated set of niggers not forming the most attractive aspect of humanity, we strolled off to a low peak at the back of the town; and finding that scrambling over the black basaltic rocks, under a tropical sun, was not so unbearable as we at first supposed it would be, we followed a long ridge upwards, and sat for an hour in the fresh trade wind, 1,050 feet above the harbour. Vultures sailed round the rocks and seemed but little disturbed at our presence. The view from here was very fine. Below us on one side was the harbour dotted with ships. Black coal-yards, contrasting strongly with the white houses, and broad tracts of white sand again threw the black rock ridges into sharp relief. On the other side our ridge fell away in vertical black cliffs to a deep sandy valley that stretched like a dry river bed to the sea between black basaltic headlands on which the blue ocean ridges dashed themselves into clouds of snow-white foam. Towards the centre of the island rose still higher peaks; all were barren and of the same lunar aspect, and yet they presented many points of savage beauty interesting to us from their novelty.

We chose a slightly different route for our descent, which involved a hand and knee climb over rocks so hot as nearly to scorch our fingers, and then over the burning sand to the town.

At 5 A.M. on the 21st we resumed our voyage. The heat now became oppressive ; 85° in the cabin, with all the ports open and the punkahs in full swing, was too much of a good thing even in the end of November. All day we drove along before a strong N.E. trade wind, splashes of warm spray now and then dashing over our quarter, and the horizon generally obscured by banks of white fleecy fog. At 5 P.M. these filmy clouds seemed to take some definite shape, and far up in the sky the wondrous volcanic cone of Fogo (7,000 feet high) stood forth over a wall of white mist. The Cape Verde Islands have been so often described as "a miserable hole of a coaling station," that I was agreeably surprised with the little I saw. St. Jago and San Antonio, of which we had but distant views, seemed very fertile. As a rule there is an abundant rainfall, but long periods of drought have occurred. One which lasted for over two years, about the year 1832, will long be remembered, as it caused a terrible famine, during which, it is said, over 30,000 people perished.

A peculiar interest must always attach itself to these islands, as, thanks to the enterprise of Prince Henry of Portugal, they formed some of the first-fruits of that

great age of maritime discovery which closed with the settlement of America and the colonisation of that great new world of the south to which we were wending our way.

Our course now was shaped for the Cape, and we looked forward with pleasure to a run on shore, and the chance of stretching our legs on Table Mountain. For two days after leaving the islands, numbers of flies and beetles came on board, borne by the wind from the African coast, which was only about 300 miles distant; and on the 23rd, when in Lat. 8° N. Long. 18° 25' W., a large bat about the size of a pigeon flew under the awning, and alighted on the mizen rigging. I was just in the act of laying hold of it when some one struck it with his cap, and away it went to leeward, where no doubt it was lost in the ocean. It was probably one of the fruit bats of Senegambia, and the fact of our meeting it and the other forms of terrestrial life shows what a constant stream of creatures must thus find their grave in the ocean, when islands do not occur as resting places in the track of the prevailing winds. On the same day the N.E. trades, which had helped us well since we passed Madeira, died away, and we entered the Doldrums, the temperature in the saloon rising to 92°.

On the 25th, after a day devoted to athletic sports on the quarter deck, we crossed the line. The temperature had already begun to fall, as from local causes the temperature in these latitudes is *always* higher to the

north than to the south of the line. The breeze now freshened from the south-east, and from this to the Cape we pounded along against a head wind. The 28th was a fine fresh day, and only for a strong current and wind against us delaying our arrival at the Cape, and our much-longed-for run on shore, all seemed going on well. In the evening I sat at the saloon table reading, when a friend came to the chair beside me and said, "I fear we sha'n't manage Table Mountain."

"Why not?" said I; "there will surely be lots of time."

"There's sickness on board."

"What sickness?"

"SMALL-POX!"

If a shell had exploded under the table I could not have felt greater dismay. Quarantine seemed written across our path in letters of fire. Shutting up my book I hastened on deck; every one knew it by this time, and all sorts of questions were being discussed. It appeared that a young man in the crowded third class had developed the disease in its most malignant form. All precautions were being taken to check the spread of the contagion, but the patient's life was despaired of. The days that followed were gloomy in the extreme, though we tried to look at the brightest side of the disaster. On Sunday there could be no gathering of the passengers on the quarter deck. After morning service in the first class, I held an afternoon service for

the steerage and third class on the fore deck, while the captain read Morning Prayer in the second saloon. So trying to keep up isolation as far as was possible, we reached Table Bay in the lovely calm moonlight night of December 5th. As our anchor plunged into the glassy water a gun was fired, its report coming back in distant rumblings from the precipices of Table Mountain, the flat top of which clearly defined against the sky stood up above a golden haze.

Being in the southern hemisphere all the old familiar constellations were inverted in the sky, and the moon passing through the earth's shadow soon after rising presented an utterly unfamiliar appearance, its well-known countenance being turned upside down. As the nights of late had been obscured by clouds many of the passengers now saw for the first time in their lives the Southern cross, the Magellanic clouds, and all the starry host of the southern heavens.

Early next morning the harbour-master and port doctor came off, but on hearing the word "small-pox," they sheered off to a distance as if we had fired at them, and shouting that they would return with orders as to what we were to do, pulled back to shore. The yellow flag floated dismally from the fore-mast head, but ere the boat could return with our orders the ship's colours were run up half-mast high, as the spirit of the poor sick man had passed. To bury the body was of course a matter of immediate necessity; it could not be landed,

neither could it be buried in the sea where we were, so the anchor was weighed, and with the signal flying to explain our movements we steamed off ten miles to sea.

At ten A.M. the screw ceased its pounding, and after some delay the young man, who had voluntarily attended on the patient during his sickness, came up the fore companion well sprinkled with disinfecting powder, and with the assistance of two others he passed his sad burden, sewn up in its canvas shroud, on to the fore deck. The captain read the burial-service; the passengers crowded round, their interest in the proceedings overcoming their dread of the contagion; and as the solemn committal to the deep was read the gagway was raised, and with a dull plunge the body sank into the ocean depths. The attendant immediately brought up a bed, clothes, boots &c., and threw them overboard. They drifted rapidly astern as the engines were once more in motion, and our head directed for Capetown. The yellow flag was hauled down, the colours sent to the mast heads, and we steamed boldly into our berth near the coal wharf, hoping that we might get in our coal without delay. But no! We were ordered to haul up our anchor at once, and move off to leeward of all the shipping, and keep the yellow flag at our mast head.

Our ship was now anchored well out of harm's way; no fear that any of the Capetown people could suffer!

But what of the five hundred souls on board? Time would tell; and Time did give his answer before another twenty-four hours had elapsed.

Meanwhile we watched the incoming and outgoing of the trains at Capetown, and the movements of all the small boats near shore, hoping that one might come with intelligence about our coal, and the possible termination of our detention. The hours seemed to be prolonged into days.

At last the harbour-master's boat came in sight, and, as she rounded to, we crowded the rail and mizen rigging to hear the decision.

"A sufficient amount of coal will be sent to enable you to proceed on your voyage, and when you have it on board the coal hulks are to be fumigated and placed in quarantine. The ship must proceed to Saldanha Bay, and there land the Cape passengers. The government will provide tents for their accommodation, and the term of their quarantine will be, twenty-one days after the convalescence of the last case." There was a pause, and then as the harbour-master consented to receive our letters when fumigated, buckets of sulphur were ignited, and in his presence the letters were passed through the fumes, some of them being much scorched in the process; then with great precautions, lest a *virio* of stronger constitution than his neighbours might have passed unscathed through the ordeal, they were received on board the boat. A notice

was passed up, which the captain posted in a conspicuous position, to the effect that a fine of 100*l.* would be inflicted on any one found guilty of throwing anything overboard.

We were disappointed not to go up Table Mountain, but it was some consolation to be able to watch the effects of light and shade on its precipices from morning till night.

“Till now you dreamed not what could be done
With a bit of rock and a ray of sun,
But look how fade the lights and shades
Of keen bare edge and crevice deep,
How doubtfully it fades and fades
And glows again yon craggy steep.”

The cloud effects, too, were wonderful. A great blanket of white mist often condensed on the mountain's seaward side, sending sometimes an arm round the Lion's Head, or down the glen, towards Capetown. It used to seem always drifting, as if intent on enveloping the mountain, but was apparently checked in its advance by the ascent of dry, hot air from the Capetown plain and heated rocks. At other times, particularly in the morning, the Table was quite covered by its “cloth,” which, in ascending, broke up into ragged cirro-cumuli, and so disappeared.

Our rest seemed most blissful on the night of the 6th, but the first news in the morning was that another passenger had developed small-pox. Some of the more

sanguine had hoped that we were done with it, but now it became only too evident that the ship was infected with the disease.

Our coal-hulks arrived about breakfast time, and as no labour could be supplied from shore, the ship's company, assisted by some of the passengers, commenced taking the coal on board. It was a slow business, and as the coal sacks could not be allowed to return to shore they were piled in a stack on deck.

On December the 8th coaling went on all day on deck, while in the cabin we sat with coats off and arms bare, waiting for our turn to come for vaccination. The supply of lymph on board had run short, but the government requisitioned it from the Capetown druggists, who, with an eye to business, did not wish to part with what might soon be at a premium in the market should the disease find its way to shore.

Next day, at noon, as there was no chance of getting any more coal—the two hulks in which our supply had come being anchored, with yellow flags flying, and useless to their owners for thirty days—we weighed anchor, and steamed in five hours to Saldanha Bay. On the way the ship's course might have been tracked for many miles by the eight thousand coal sacks which were pitched over the side.

At 5 P.M. we reached the entrance of the land-locked bay, and steaming past two islets covered with myriads

of sea birds let go our anchor in clear, still water, close to a rocky cove. It was here that in 1620 the English first settled, and the old grey building—the first government house in South Africa—still stands close to the shore, and was an interesting feature in our view.

After a delay of three days spent idly at anchor the tents on shore were ready for the accommodation of the Cape passengers, who, with two sick men and a few of the Australian passengers, who decided upon taking this opportunity to quit the ship, were now landed, and firing a farewell gun we steamed off on our long 6,000 miles to Australia.

No sooner were we well under way than the doctor ordered every one up from below, and all windows, doors, and ports being secured, buckets of sulphur were ignited in every part of the ship. About an hour before dinner time the fresh air was let in but the after smell lasted for weeks. Our beds seemed to have absorbed an extra amount of the fumes, and this horrible choking smell, added to the rolling of the ship, made us feel more squeamish and unhappy than we had done for the whole voyage.

About 10 P.M. we sighted the lighthouse on the Cape of Good Hope, and bade a long farewell to what had been metaphorically to us, as it had been literally to Bartolomeo Diaz, a “Cabo Tormentoso.”

We shaped our course to the south-east thus

getting into colder latitudes every day till we reached 43° south. A strong westerly gale then helped us along, but owing to our short supply of coal we seldom did more than 280 miles per day, though we carried every stitch of sail.

The birds in these latitudes afforded the great interest of the voyage. In the Atlantic we saw only a few gulls or petrels, but here in this Southern ocean a perfect cloud of albatrosses, mollyhawks, whale birds, &c., followed in our wake, sometimes coming up so close as almost to be within reach of one's hand—now sailing with their wings aslant, high up over our heads; then shooting downwards, and rising again in a graceful sweep, with apparently no more source of motion than the velocity obtained during their last descent. I had often heard and read of the wondrous flight of the albatross, but now that I had it every day before my eyes I only wondered more and more.

Though the albatross was the grandest of our feathered companions, the flight of the mollyhawk was not a whit less wonderful; and the silver-grey little whale birds,¹ reflecting the green of the wave tops from the white under-sides of the wings, seemed so unsubstantial that they might have been the spirits of old albatrosses which in the ages past swept over this lonely sea.

In 42° 40' south lat. we seldom found that the midday shade temperature rose above 50°, and this with a high,

¹ *Prion Turtur*.

damp wind, felt very chilly after the warm regions through which we had but lately passed.

This being the southern summer in latitudes corresponding with Central Italy in the northern hemisphere, it may easily be understood how many other conditions besides mere distance from the equator have to be taken into consideration, when we come to form an idea of the distribution of summer heat and winter cold over the surface of the globe.

We were now in about the latitude of the south island of New Zealand. Perhaps the very clouds flying over our mast-heads, borne along by the westerly wind, would there fall as snow on the glaciers of the Southern Alps; or turning further southward pile up ice on the lonely frost-bound shores of Heard Island, which, in the same latitude as England, is covered with glaciers down to the very sea.

Sometimes we sighted a school of whales. One day we passed a pale green patch in the sea of a couple of acres in extent, which must have been a cloud of minute algæ, or of small marine animals. A quartermaster said they often saw it and called it "whale spawn."

Once only, until close to the Australian coast, did we sight a ship, and she, being out of her course, signalled us for our longitude.

As we travelled eastward the weather became more genial, and the sea smoother. But there was little

change in the outer world to attract attention. Christmas came and went, the old year passed and the new year still found us cleaving the ocean, but our course was now more northerly, and on January 2, 1882, at 12 noon, we sighted Cape Borda in South Australia.

So far as outward circumstances were concerned, except for its slowness, no voyage could have been more prosperous, but, alas, the first signal we had to make to the station on Kangaroo Island told the old story over again: "Sickness on board. Small-pox—two cases." A fireman and a third-class passenger were in the for'ard hospital, and as the former developed the disease two days after leaving Saldanha Bay, and was now convalescent, we had much cause to be thankful that we were so near the end of our voyage without a much more serious outbreak.

We were just a fortnight overdue as we steamed past Kangaroo Island and through Investigator Strait to Adelaide.

CHAPTER III.

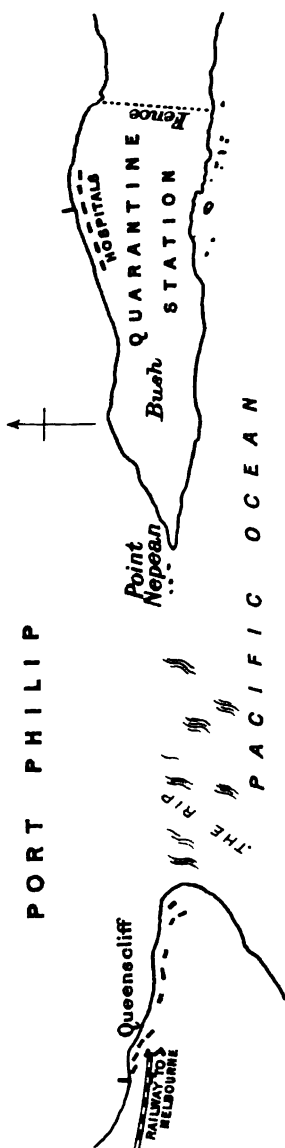
"There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society, where none intrudes,
By the deep sea, and music in its roar."

BYRON.

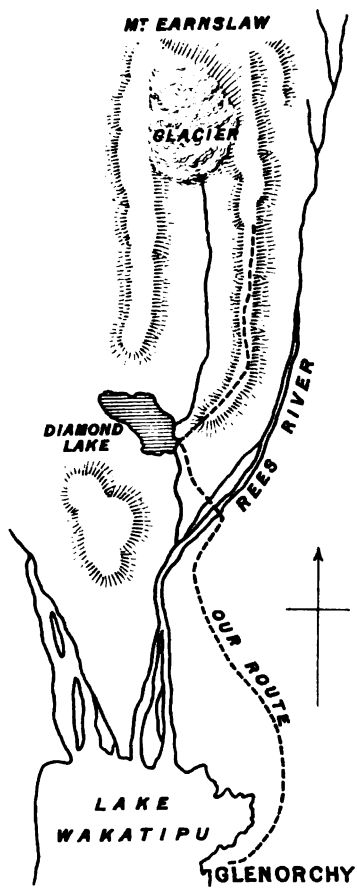
Australia.—Quarantine.—"Did not attempt to escape."

ALL hopes that we could escape detention in Australia were at an end; the only question worth discussing was, What quarantine station would be the best? Some of the passengers decided upon taking their chance at Adelaide; I preferred going to Melbourne, the port for which I was booked. But it was hard to be philosophical under the circumstances. The time at my disposal was limited, the New Zealand summer was now at its height, the *Lusitania*, with Boss and Kaufmann on board, was expected in the day after we arrived. And now we had to make up our minds to endure an imprisonment which must last for weeks and might last for months!

It seemed unpleasantly probable that after travelling



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over 12,000 long miles of sea, I should be compelled to return home without ever setting eyes on New Zealand.

We were not delayed longer in the Gulf of St. Vincent than was necessary to put the cargo into hulks and land the passengers for South Australia at the quarantine station on Torrens Island. We then sailed for Melbourne.

Early on the morning of the 6th we stopped off the entrance of Port Phillip to take a Melbourne pilot on board, and steaming through the "Rip," as the rough water between the heads is called, we let go our anchor close to shore at Point Napean, abreast of the quarantine station.

The station, consisting of a row of neat buildings with verandahs crowning a low yellow cliff, down which vivid green creepers trailed to a white sandy shore, looked quite pretty. The background of trees, covering low hills and extending in an unbroken verdure as far as we could see, promised delicious shade. The deep clear water was just the place for a swim, and to raise our spirits still more, which were elastic in response to the dry, clear, exhilarating air, the doctor coming on board informed us that our imprisonment would be only fourteen days from the isolation of the last case of sickness.

As most of the passengers were booked for Melbourne, the ship was now in a great bustle, every one being engaged in packing, dragging luggage about, and to

the best of their ability adding to the general excitement.

Boats that came from Melbourne with passengers' friends were warned to keep at a civil distance, or they would see more of the inside of the quarantine station for the next few weeks than they bargained for.

Everything was said to be ready for sending us ashore. The boats were in the water, but ere we could leave the ship a minute inspection of every passenger must be made. We were taken by classes. The first class was first mustered on one side of the quarter-deck—a line drawn at which the shore doctor stood—then, under the direction of the ship's doctor, we all marched past in single file. A good deal of skylarking went on, of course, some fellows trying to look suspicious, but the old doctor was not to be caught with chaff. The first class having passed "sound," the second class were next examined with like result, and then came the third class. The doctor knew of the two cases in the hospital, but now was the test. A girl walked along in her turn on whom no suspicion had been cast; she did not look well, however. We saw the doctor stop her, feel her pulse, and shake his head. There was no making a mistake this time; by that day week she had reached the worst stage of confluent small-pox. A young man was similarly selected from the crowd that filed past—the doctor was again right, as the event proved.

Orders were then issued to the first and second class passengers to prepare for landing, and after a slight lunch we took our seats in the ship's boats and were towed to shore. The day was lovely—just a little too warm—and the walk up the sandy path through thickets of flowering shrubs to No. 1 Hospital, which was destined to be our home, seemed delightful after our long confinement on board ship. Since that day in the Cape Verd Islands forty-five days had elapsed since we had set foot on land. For the moment we forgot our troubles, though one lady fainted from the heat and fatigue of wading up through the hot sand; but on reaching our quarters all our thoughts were absorbed in deciding how the apartments should be allotted.

One large room was to be our dining-room, above it the men's dormitory, twenty-seven iron bedsteads being ranged round the walls. Another similar room was allotted to the ladies, and below that an apartment divided into separate cubicles was for the married couples. All the rooms opened upon verandahs, which went round three sides of the house, and commanded a charming view of the great inland sea of Port Phillip.¹

Of the other hospitals which were similar to this, No. 2, separated from No. 1 by about fifty yards, was devoted to the second class, and then after a space

¹ Port Phillip is over thirty geographical miles from north to south, thirty-five miles from east to west, and the entrance between the Heads is 4,000 yards wide.

of about half a mile occupied by the surgery, telegraph office, wash-house, etc., came Hospitals Nos. 3, 4, and 5, shut off from the rest of the ground by a continuous fence; and here the infected third class and steerage were quartered. But as if to set all these arrangements for isolation at defiance, the actual small-pox hospital was not near these last three hospitals, but close up to the back of No. 1, and not a hundred yards distant; when the convalescent patients were smoking their pipes, we could smell their tobacco on our verandah, and one evening I was talking to a poor fellow who had come down to our kitchen for something to eat. At first they seemed to have been left to shift for themselves. I must say, however, that this was no fault of the two quarantine attendants, who had far more to do than they could get through, and they worked splendidly, passengers expecting them to be here, there and everywhere at the same time. To see a man who had just developed the disease marching past our door, muffled up in an ulster, an attendant walking in front at a respectful distance, did not impress the passengers with the wisdom of the arrangements, and mothers and servants might be seen, as the ominous figure approached, darting out and gathering in their children in the greatest alarm.

However, as the sickness did not spread into our hospitals, and as it was rapidly stamped out in the third class and steerage, only seven or eight cases in all

having occurred, one of which proved fatal, we must believe that the quarantine arrangements were all that they should have been ; and that the colony was by their means saved from what might have become a devastating epidemic.¹

The interest of exploring our new home was soon interfered with by the pangs of hunger. The children were crying for something to eat, no provision having been made for a supply of food. The doctor told us that he had nothing to do with the matter, the Company were bound to look after us. At 9 o'clock no food had arrived from the ship. We had telegraphed to the government without effect. The children had eaten nothing since 11 A.M., so two of us determined to get a boat and pull off to the ship and remonstrate. On reaching the wharf where the third class were being landed, we found a boat of luggage, amongst which were several sacks of bread of the poorest quality. Shouldering one of these sacks, we marched in triumph back to the station, and as we tumbled the contents out on the table it was as quickly demolished as a hare would have been by a pack of hounds. Next day a cook and servants arrived from Melbourne and a flock of sheep were brought into the station. After this we got plenty to eat, but the hours for meals were never fixed, dinner being served any time between 1 and 7 P.M.

¹ The passengers who went on in the ship to Sydney fared much worse than we did, as did also those whom we landed at Adelaide.

After the first night at the quarantine station it became necessary to call a general meeting of the passengers, and elect a sort of "vigilance committee" of five, for the maintenance of order. No sooner, however, did the committee proceed to execute its functions than an indignation meeting was held, the committee deposed, and a new one elected. The new committee held its sway till it attempted to act, when it was abolished, and another general meeting held. As I had the honour of being elected on each committee, I had a lively time of it. Gradually, however, things fell into shape. A force of police sent from Melbourne at first seemed to be a new element of unrest. But cricket matches, lawn tennis, and bathing were amusements always ready to hand, and as the gentlemen who desired peace and quietness seized upon the vacant portion of the married couples' quarters, the clash of jarring elements ceased to be heard.

Immense piles of luggage lay on the wharf, and as there was only one horse and cart available, several days elapsed ere we had finished the task of transporting it to our quarters; all the loading and unloading having to be done with our own hands

On the morning after our arrival, having put in what I considered my share of work at dragging boxes and trunks along the wharf, I joined H—— in a walk across our domain, the limits of which

will best be understood by a glance at the accompanying plan.

We struck upon a path leading through the bush to the south coast, and were soon out of hearing of the noise and fuss of the station. It was a lovely morning, and the quiet of the woods, the twittering of birds—undisturbed by our tread on the soft sand—and the novelty of the vegetation, all combined to make it seem one of the most delightful walks I had ever taken. No doubt much of its pleasure was due to the wonderful power of contrast. And so, in spite of the disgust of being in this prison, and all the worry and disappointment it entailed, the hush of the woods seemed that morning to us like the calm of paradise.

The trees at first were from twenty to thirty feet high, scrubby, twiggy trees known as ti ti tree being the most common. Then there were wattles, honeysuckle trees, he oaks and she oaks, a few gum trees, and the bleached dead trunks of larger trees than any which now exist—speaking of a time when a more luxurious growth of vegetation covered this promontory ere it was destroyed by forest fires which, from the size of the present scrub, would lead one to suppose had taken place in the very earliest days of the colony.¹ As we approached the coast, the

¹ These fires, which seem so destructive to Australian vegetation, are in some remarkable ways the very means of its reproduction. For

trees became lower and flowering shrubs took their place. But whether in ti tree scrub or out of it, the bush was so dense that progress in any direction, except along the cut track, was almost an impossibility. As we walked along, our path occasionally rose over low hills, giving pretty views of hill and dale, and in about an hour we reached a sandy swell crowned with low shrubs covered with white flowers, and beyond, the grand ocean rollers, tumbling over reefs of yellow sandstone rocks, and shooting up into white fountains of spray. Rabbits darted aside as we leaped down the sand-hills to the beach; we soon were at the edge of the surf, dragging in huge pieces of tangle, some with stems as thick as my arm, and over twenty-five feet long. The sand was strewn with Venus' ears, turbos, and other strange shells. Pieces of wreck, a dead shark, sponges—all had their stories to tell, and a great angular piece of iron deck and a hatchway was almost all that remained of the ill-fated *Formosa* which perished on these reefs thirteen years ago.

instance, the wattle tree, a species of *Acacia*, whose seed pods were now bursting, is specially adapted to survive in this severe struggle for life. Its seeds are incapable of germination until they are soaked in boiling water, or in their native state scorched by a forest fire. The burning of the old forest is therefore the very means of starting the new one into life. This tree is also interesting as producing a very tough gum which, up to the present time, has not been utilised as an article of commerce, but which has been most valuable to the aborigines as a cement for fixing their basalt axe-heads into their handles.

Some outlying crags which have withstood the inroads of the sea and are tunnelled through by the surf, stand out as conspicuous objects in the surging foam, the ledge known as "London Bridge," being the most remarkable.

We walked along the beach to the westward for a mile or so, a fresh breeze driving the fine stinging sand against our faces. The constant driving of this blown sand against the rocks, which here and there crop out between sand-hills into bold headlands, has produced wonderful results. The softer parts of the rock being carried away, the harder parts remain as fringes and curtains of rock perforated like lace-work, of every imaginable pattern and every fantastical device.

When it was time to return, we took our bearings from the top of a hill and struck into the bush in what we hoped would prove a straight line for the station. Following the open glades as far as possible we found everywhere the signs of kangaroos, their tails dragged along the sand making a most unmistakable track; their footprints were also quite distinct, and as we were examining a very fresh trail H— sung out, "There he goes!" and glancing up I was just in time to see a walabie dart under the dense scrub and vanish. The open glades became fewer and the scrub denser. We lost our direction; I tried to climb a tree, but the tops of the ti trees are so slender that I could not get high enough to obtain a view. So after a couple of hours' wandering about and smashing

through dense scrub, we gained the summit of a knoll from which we could see the ship's masts, and got back just in time for a wash and dinner.

It was Sunday evening, but no casual observer would have thought it was a day of rest. Though the sheep had come and the fodder for them was on the wharf, there was no one to fetch it up. The sheep could not be trusted outside the little fence inclosing our building or they would lose themselves in the bush. One of them was found dead at the end of the verandah, and it lay where it fell all day long in the hot sun. After dinner our first business was to get the cook's shovel, tumble the sheep over the cliff, and bury it on the beach, and then to drag a bale of compressed hay from the wharf for the survivors. No sooner was this done than a message came from the doctor to say that the first class might have the washhouse next morning to wash their clothes, and that it would be necessary to fill the cisterns over night. Accordingly a party had to be told off to go down and pump, so it was 10 P.M. ere we could hold a short evening service and retire to rest. We were now all supplied with straw beds, which were to be burned on our departure; our blankets, marked with many a singe, spoke of having done duty and passed through the high-temperature disinfecting process on former occasions. A few days later sheets were served out. I need hardly say that we had to make our own beds, or leave them

unmade, as I fear was usually the case. We were supplied with water from an iron cistern, which we had to take turn about at keeping full, but it was so rusty inside that the water was like red paint, until one gentleman magnanimously undertook the dirty job of getting inside it and scraping it out clean.

On Monday morning two of the nursemaids lit the fires beneath the coppers in the washhouse, and as many of us as could find tubs took our bundles down, and with coats off and sleeves tucked up spent all the forenoon scrubbing away. The ladies did some of their own washing at the same time, and gave us many a useful hint at the work, or derided us when we were guilty of any absurd mistake. Somehow or other I had got it into my head that flannel shirts required the hottest water that I could bear without scalding my hands. The consequence was that when they were dried I could no longer get into them. Fortunately the rest of my stock was saved by the timely advice of a fair *blanchisseuse*. My Alpine ropes came in handy for clothes lines, and for several days afterwards the front of our hospital, festooned with every variety of apparel, looked like the rigging of a man-of-war after washing day.

One of my first thoughts on landing from our ship had been to send a letter to the Orient agents for Kaufmann and Boss, telling them of my troubles, and directing them to take lodgings in Melbourne. On Tuesday afternoon

as I stood on the verandah, the *Lusitania*, with my men on board, steamed past the station on her way to Melbourne, and here we were like convicts. Any day a case of sickness might show itself amongst us. Our release was all wrapped in uncertainty. It was maddening to feel the long summer days shortening, and to watch that same evening the Union Company's steamer pass out on her way to New Zealand. I wrote to a gentleman occupying an influential position in Melbourne, and he kindly used all means in his power to have an exception made in my case. I volunteered to go all the way to New Zealand on the deck of the steamer, and on arriving there not to enter any human dwelling for twenty-one days after landing. But it could not be arranged. The Victorian Government would allow me to pass on to New Zealand if the Union Steam Packet Company would take me; but this they refused to do, so there was nothing for it but to wait. The days now became very warm, a hot wind blowing. Our sea-girt situation tempered the heat somewhat, but the temperature registered in Melbourne was 114° in the shade; and it doubled my unhappiness to think of Boss and Kaufmann sweltering in this heat. They went out of Melbourne every day, but as I always hoped some chance of release might turn up I wished them to remain within hail. The Melbourne people were in such a state of panic, that I believe many of them thought we ought

never to be liberated. Though our isolation was supposed to be complete from the third class, a new order came down saying, that we should not get out until the 14th day after the isolation of the last case in *any class*. This to us seemed a most gratuitous piece of persecution.

To add to the general consternation a telegram arrived from Auckland, saying the 'Frisco mail steamer *Zelandia* had arrived, and proceeded for Sydney with small-pox on board. Our good ship which had gone on her way to Sydney would now have company in her trouble; it seemed as if the legions of sickness and death had concentrated their powers for an invasion of Australia.

Since I had seen that kangaroo on our first walk I was most anxious to shoot one, and chancing to wake at 3 A.M. on the morning of the 10th I got up at once, and taking my gun left the dormitory as quietly as possible and started off for the south coast. Stars twinkled now and then through patches of clear sky, but the bush tracks were shrouded in pitchy darkness. The night was still, I could hear the booming of the distant surf, but the air was so pervaded by its dull monotonous roar that I could not be sure of its direction, and taking some wrong turn I soon lost myself in the bush. I had hoped to reach the south coast before daylight, but after a fruitless attempt to retrace my steps and an hour's smashing about through the ti trees, I found myself at last back

within half a mile of the station, but just as the sun rose I took the right path and made my way to the far-off beach. It was too late now to think of much game, so I shot a couple of rabbits and then took a swim in the surf. I dared not go out far, as this beach was said to be infested with sharks, but lying down I let the breakers roll me about on the smooth sand. The sea was deliciously cool after my hot walk, and much refreshed I returned to the station at about 7 A.M.

As the quiet of the bush was far preferable to the heat and noise of the station, I proposed to two friends, H— and B—, that we should take one of my tents and camp out for a few days in a secluded part of our domain. Our guns would keep us in food; the want of water was the chief difficulty. They were charmed with the proposal, and we started one evening after dinner on an exploring expedition, taking with us as many bottles of water as we could; these with some cartridges, we hid in the bush. Next day we started with the tent and bedding slung on the tent poles, and after many a rest, as the evening was hot and close, we reached our secluded glade.

The tent was pitched in a few minutes, and two hammocks hung up inside, one over the other. B— hung his hammock in a tree, with a mackintosh sheet thrown over it to protect him from wind or rain. We then lit a fire, great care having to be observed lest we should set fire to the bush. Tea was soon ready, and we were

hungry for our evening meal. But now came the difficulty. We dare not sit down; the whole place was, as was every part of the bush, alive with great bull-dog ants. I have been severely bitten by ants in the West Indies and elsewhere, but never did I meet with such ferocious creatures as these bull-dogs. When you approach them, instead of getting out of the way, they face round and assume a defiant attitude. Being about an inch long, a bite from their formidable nippers is not easily forgotten.

B— propounded a theory which I have not as yet met with in any of the late Mr. Darwin's works as accounting for the development of the present existing kangaroos:—

The progenitor of the kangaroo was an animal with hind quarters of ordinary dimensions like other animals, but whenever he sat down a bull-dog ant gave him a pinch, causing him to make a bound. The constant recurrence of this unenviable phase of his existence through succeeding generations led as a natural consequence to the extraordinary development of the hinder limbs in the present representatives of the race. Be this theory true or false, I know for a fact that one of our party made a jump quite equal to any kangaroo, when, sitting on the beach after a swim, a bull-dog ant gave him a most incisive nip.

To get our supper in peace we spread the mackintosh sheet on the ground, and sitting back to back in a strategic point near its centre from which we could see

our enemies approaching over the white surface, we avoided being taken by surprise.

It was now dark, so we retired to our hammocks, well out of reach of ants and other marauders.

At 3 A.M. I was awakened by the moonlight. The air was still as death. A faint hum of the distant surf filled the air, and the whole bush seemed alive with game. The ground throbbed with the hop, hop, of kangaroos. After listening to these footsteps and rustlings for some time, I crept quietly from my hammock, and taking my gun stepped out into the night. The sky was as clear as in frost, the stars scintillating like diamonds. It was cold too, a guernsey frock added considerably to one's comfort. The moon, which was in its last quarter, gave good light, and above the scrub the bare trunks of the dead trees spread forth their spectral arms in ghastly whiteness.

Cautiously I crept from glade to glade, often mistaking a charred stump for a kangaroo, but though their hoppings resounded through every part of the bush, the lights and dark shadows were too deceptive to offer any fair chance of seeing one, so I returned to camp and lay in my hammock till the first streaks of dawn. I then roused B—from his slumbers by tapping with my fingers on the outside of the mackintosh sheet; whereupon he sprang out of his hammock with a start, quite certain that nothing short of a bandicoot was dancing a fandango on his roof! We went for a short

distance together, and then taking opposite directions I came upon an open glade in a hollow. Several rabbits raised themselves on their haunches and cocked their ears as a dry twig cracked under my foot, but resumed their grazing quite satisfied that no danger was near. A good sized honeysuckle tree rose from the middle of the glade, and just at its foot was a fine wallaby dodging about on all fours. Being about 150 yards distant, I could easily have got him with a rifle, but with heavy shot I need expect to do nothing unless I could get close. I crawled on all fours so quietly that the rabbits never ran away, but on reaching the point from which I thought I might fire, the kangaroo was gone. Quietly I climbed into the honeysuckle tree and endured the nipping and biting of a cloud of sandflies for half an hour, but no more game came into sight. It was however just the hour for seeing and hearing the bird life of the bush. The air was filled with twitterings, whistlings, and chatterings of bell birds, wattle birds, parrakeets, &c; while the "coo, coo" of the bronze-winged pigeons came from the scrub close by. The bell bird's note sounded most musical, and contrasted forcibly with the hoarse chatter of the wattle bird (one of the *Honeyeaters*) whose note I first mistook for that of the laughing jackass, but the wattle bird is much smaller. I often saw this bird in the act of chattering, its little head would bend low over its back, its breast feathers stand straight out as its throat swelled and then would

come forth the most unbird-like notes, sounding exactly as if a few links of a chain were dragged over the edge of an iron bar. As I strolled back to camp I shot a couple of bronze-winged pigeons and a few rabbits, and after breakfast we started for the southern beach. It was dead low water, the flat rocks bare for several hundred yards beyond the sand, their outer edge breaking off suddenly and making a step like a quay wall, against which the surf thundered and poured over into deep rock pools. The level floor of rock was everywhere hollowed out into large basins filled with clear sea water, and fringed with lovely sea weeds, a species like the rare "peacock's tail" (*Padina pavonia*) of our own coasts being very common. Numbers of sea anemones adorned the crevices, and small rock fish darted hither and thither amid groves of *Laminaria* and *Fuci*. On turning over a boulder which was jammed in a deep crevice we found on its under side a number of large Venus' ears alive. I broke the blade of my knife in trying to dislodge a specimen to take home. The grip they held of the rock was marvellous. Having collected a few, some large chitons and other shells, we bathed in a rock basin about eight feet deep, and returned to camp for dinner.

One of the pigeons roasted in his feathers, and a rabbit which we slipped out of his skin, and replaced with the skin turned inside out, roasted in a similar manner in the hot embers, furnished our repast.

About four o'clock three of our lady friends arrived at camp under the guidance of the only gentleman who knew of our whereabouts, and as they brought with them some bottles of water we had the pleasure of giving them afternoon tea, and saw them safely out of the bush before dark.

Our third night and morning were spent similarly to the others, and after breakfast we started for our bathe, intending, as it was Saturday, to return to the station that evening. We had not proceeded far when I shot a bird, and as I was in the act of picking it up, out popped the white helmet of a policeman from a dense bit of scrub. Walking up, he accosted us with—"Mr. Green, Mr. H——, I presume?" We assented. He then requested us to return to our camp, which was in charge of the sergeant and informed us that the police had been searching for us for twenty-four hours;

On reaching our camp the police sergeant rose from a log, and putting his hand into his breast pocket produced the warrant for our arrest. Here was a go! We were to be brought in "dead or alive"! As we preferred going in alive we of course said "All right," and obtained permission from this most obliging constable to go and take our swim, he and his companion having no objection to wait for an hour or so. As I was afraid this would prove the end of our expeditions

I took my camera with me and secured a couple of negatives; and then coming back to camp we packed up our possessions, and shouldering our "swags" we marched to the station, the police walking behind with our guns. As we had to make one load of what we had carried out in two loads, and to march under the mid-day sun, we took many rests and were much obliged to a couple of gentlemen from the station who lent us a hand for a short spell. On approaching the station a lot of fellows gathered to cheer us as we were "run in;" and next day the Melbourne papers announced that we had *not* attempted to make our escape "as had been supposed." Strict orders, however, came down from government that all passengers should henceforward be present for roll call at 10 P.M.

One gentleman of the second class shot a brace of walabie, whose track he had for several mornings watched most patiently; and this was all the havoc made among the kangaroos by the "jovial huntsmen" ex the ss. *Garonne*.

The novelty of quarantine life which at first helped to soothe our troubled minds had now worn away. Another Sunday had come and gone, and all thoughts were concentrated on the probable decision of the Melbourne cabinet, which was to meet on Monday, January 23rd.

News of a most important character had arrived. The P. and O. mail steamer *Mirzapore* was telegraphed from King George's Sound as on her way for Melbourne with *small-pox on board!* What effect would this have on our case? Her passengers must be landed here. We stood all the morning in groups round the telegraph office, wondering what might be the next message. At last it came: "1st and 2nd class to get pratique to-morrow if no sickness has appeared since last telegram."

I fear in the general feeling of joy at our release, the poor *Mirzapore* people got but little commiseration.

To-morrow! We could hardly realise it.

An order was now issued that all luggage must pass through the disinfecting room before leaving; so to pack up was a work of immediate necessity.

To-morrow—Tuesday—was the day of sailing for the weekly New Zealand steamer.

With all the luggage to fumigate a great delay *must* take place, so it seemed impossible that I could reach Melbourne in time. What was to be done? I consulted the doctor, and he acceded to my request to give me a clean bill of health any hour after midnight. The quarantine attendant undertook to set the fumigation going that evening, so I hoped to get off by about 4 A.M.

I telegraphed to my men to get on board the ss. *Albion* next day, and that I would join them.

I worked hard to get my goods packed, and as I had undertaken the charge of a young lad who was going alone from London to some friends in New Zealand, I had to see after his luggage too, as he must of course accompany me. Before dark our things were safely deposited in the fumigating room. At 1 A.M. the doctor gave me a "clean bill of health," which should be our passport through the lines. At three o'clock I roused my young charge and tried to awaken the attendant who was in charge of the baggage. However, there was great delay in getting out the things, further delay in getting them to the fence, the cart which had been ordered to meet us did not turn up, and as five o'clock came the last chance of reaching Melbourne in time for the New Zealand steamer vanished. There was still the chance of getting on board the steamer, as she would pass Queenscliff.

The horse belonging to the station carted our baggage to the fence, but could go no further. Our goods were then tumbled over, and showing the passport to the sentry we leaped over and felt ourselves free. Never in my life before had I known what imprisonment meant. And though our detention had many a redeeming point, still from the 21st of November to the 24th day of January we had felt what the loss of freedom really

meant. On board ship it had been fairly tolerable, as one always had the feeling that the ship was, at all events, *going on*; but the sudden stagnation of active life was more oppressive than I could possibly have imagined. And the reaction now seemed as great as if a long term of penal servitude lay behind.

Leaving Frank sitting on the luggage in true emigrant fashion, I walked to the hotel at Portsea and engaged a dray to come at once and fetch it, but as the hotel people looked somewhat askance at a late inmate of the hospitals I strolled back to the fence to wait. It was a glorious crisp morning, the sunshine sparkling brilliantly on the blue waters of Port Phillip, which were ruffled by a gentle sea breeze. Over our heads immense flocks of little green paroquets filled the air with their twitterings, and the ti tree scrub resounded with the calls of various birds.

We drove down the road to the wharf at Portsea. A fisherman's boat was in waiting, and all was quickly stowed on board. As we had a fair wind the man deemed the centre board unnecessary, so he pulled it up, and hoisting his lug sail and intrusting the helm to me we slipped past the wharf and were soon dancing over the crisp blue sea. As we passed the station, seeing many of our friends astir, we waved to them, and then shaped our course for Queenscliff. It was flood tide, so as we neared the harbour's mouth we hauled our wind to avoid being carried too much to

leeward, and the water being a little rough we got a good dashing of spray.

The "Rip" passed, we glided among some pilot boats at anchor under shelter of the head, and coming alongside the pier we stepped ashore at Queenscliff.

CHAPTER IV.

“Let not hope
Grow weary. Never hath a painless life
Been cast on mortals by the power supreme
Of the All-Disposer, Cronos' son. But joy
And sorrow visit in perpetual round
All mortals, even as circleth still on high
The constellation of the northern sky.”
CAMPBELL's Sophocles.

Free at last.—Melbourne.—Tasmania.—The South Pacific.

As we were unfortunately about an hour too late for the train to Melbourne, we piled the luggage on the wharf, while I went to the shipping agent who undertook the conveying of passengers off to the various steamers. He said all would be right, and ordered our things into his boat at once. We then telegraphed to the Union Steam Packet Company to direct the *Albion* to take up two passengers off Queenscliff, and being half famished we ordered breakfast at the hotel close by.

It was now 9 A.M., and the *Albion* would not pass until about 5 P.M., so we had time enough to inspect the fort and heavy guns which are intended to blow any

hostile man-of-war out of the water should she dare to pass the "Rip."

When enough time had elapsed for an answer to come to my telegram I returned to the office, and to my utter mortification read: "*Albion* quite full; can't stop." I immediately wired back that I wanted no cabin accommodation, if only I might be taken on board but this could not be, and late that evening as we steamed up to Melbourne we passed the *Albion* on her way to sea. She was really over-crowded, but it was too vexatious to think that another week must now elapse ere I could start for New Zealand. Had I had any expectation that we should so soon be set free, I could have engaged a place in time, but as the number of people crossing from Australia to New Zealand in summer is very great, all berths are engaged quite a week previous to the sailings of the boats.

New Zealand is to Australia what Switzerland is to England. When the well-to-do Australian citizen feels baked and parched by the hot summer wind; when the invalids or convalescents seek change of air, they may choose between two courses—either to go to Europe or to New Zealand. The latter being nearest is daily becoming more popular, hence the Union Steamers are nearly always crowded.

There are high mountains in Gipps Land in which an Australian Simla may yet be established. But till

some enterprising hotel company starts a sanatorium on the higher plateaus there is no real refuge in Victoria from the terror of the hot winds.

By 5 P.M. about a dozen other passengers from the quarantine station arrived at Queenscliff, and we took our places together in the little screw steamer for Melbourne. Several gentlemen who had come down the bay for the day, when they found that we were on board, forfeited their tickets and the chance of returning home that night, rather than run the risk of travelling in our infected company.

Shortly after dark we sighted the lights of Melbourne, and steaming up the crooked Stygian ditch called the Yara Yara—our nostrils every now and then assailed by the vile smells from bone-manure manufactories—we reached the wharf to find our friends from the quarantine station just disembarking from another steamer, which had been sent to fetch them up. A number of us drove to an hotel close by, and as I had not taken off my clothes for forty-eight hours I slept till the sun was well up next day.

After breakfast my first object was to secure our berths in the steamer sailing the following week, so I went to the office, and, in conversation, the agent told me he was very sorry about not being able to take us in the *Albion*; had I been alone he might have managed, but to accommodate two passengers was quite out of the question. This was but poor consola-

tion, as little Frank was really only half a passenger. On securing our berths we went on board the *Te Anau* and inspected our quarters. She was a splendid new steamer of about 1,500 tons, with every modern device for the comfort of the passengers. The pillows in the berths were life-buoys; but I am not certain if the instructions as to how to put them on, which were posted up in all the cabins, would be quite reassuring to nervous voyagers, as, when undertaking the journey, people don't care to contemplate such an eventuality. However, it is better to be on the safe side, particularly as one of these steamers, the unfortunate *Terarua*, perished with about 200 souls on board, on the coast of New Zealand, about ten months previous to our visit.¹

Having secured our passages to New Zealand my next thought was to hunt up Kaufmann and Boss, as at the office they knew nothing about them.

I went to their hotel, and found that on receiving my telegram they had gone on board the *Albion*, and were now on their way to New Zealand. I cabled the Union Company at New Zealand to stop them at Port Chalmers, as our tickets were made out for Wellington, and I had now given up all intention of going there.

¹ Now that such vessels as the *Ionic* and *Doric* are to run direct from London to New Zealand, under the auspices of the New Zealand Shipping Company, future travellers will be saved all the inconveniences and delays of transhipment.

Having called to thank the gentleman who had kindly interested himself in my release, I had nothing more to do but to see Melbourne, and get the week through as quickly as possible. To see Melbourne is to behold one of the great miracles of the nineteenth century civilisation. To stand at the corner of Bourke Street or Collins Street, and watch the streams of carriages, omnibuses, and drays of merchandise flowing past; to see those shops exhibiting the most costly wares from windows decorated in the latest and most artistic style of the New Renaissance; to think of its teeming population of 280,000—and then to try and realise the fact that only fifty years ago no white man had ever set foot where the great city now stands “the Queen of the South” is simply bewildering.

In 1802 Port Phillip was entered by H.M.S. *Lady Nelson*, but, in 1804, condemned as unfit for settlement. In the year 1835 John Batman arrived in Port Phillip, and bargained with the natives for 600,000 acres of land. They sold him this amount of land for a certain payment to be made annually of a few suits of clothes, a little food, &c., and the deed of transfer was by them formally signed, sealed, and delivered. The signatures of these poor blacks are quite a study in themselves. The whole document may be seen in fac-simile in Mr. Dawson’s admirable work on the Australian natives.

Thus in 1835 Melbourne was founded. For years it

continued to be a rising little town, as the centre of a pastoral district. The squatters of those peaceful days speak with sorrow of the great storm of prosperity that soon broke over the infant settlement. In 1851 gold was discovered; the whole world seemed flowing towards Melbourne at the rate of 3,000 immigrants a week. Then came the wild days of gold digging and gigantic dissipation, amidst which Melbourne rose rapidly into importance, the bullion exported amounting in some years to £12,000,000. In the ten years following 800 tons of gold passed through the city, valued at £104,000,000. The gold raised from the Victorian diggings is now no more than about £3,000,000 worth per annum, and the cost of the workings is so great that the expenses incurred in obtaining it must leave but a small margin to be looked upon as absolute profit.

Its golden age is passing away, but Melbourne shows no signs of decay—far from it. Magnificent edifices, a parliament house, and a fine cathedral are being built. The production of wool, with a view to which the colony was first established, has steadily increased and promises to be of more permanent value to the country than gold could ever be. The quantity passed outwards in the year 1880 amounted to over £6,000,000 worth.

The National Gallery formed a delicious retreat from the heat and dust of the city, and there, in a well-

lighted saloon, I spent a pleasant afternoon, enjoying many a gem purchased from the Royal Academy, "Esther," by E. Long, looking especially lovely in her adopted southern home. The heat of these days was something terrible, 110° in the shade being the registered temperature published by the meteorological department. A hot wind was blowing, which, when you came into the open air from any building, struck you as a blast from a furnace.

One day I accepted a hospitable invitation to a picnic near the sea side, with about 300 people belonging to the press, and spent some pleasant hours in the company of proprietors and editors, discussing all questions, philosophical, political and theological, our brains being invigorated by the cool ocean breeze.

But whether between heat and vexation at the great delay, or from the quantity of delicious cool fruit in which I indulged, or from a combination of all three, I awoke one morning feeling very ill. It was with fear and trembling that the hotel proprietor had received us into his house, but now that I was taken ill the servants became panic-stricken. A general stampede was determined on. That I was developing small-pox was looked upon as a certainty, so they all gave notice to leave. In his dilemma my host came up to me and stated his case so strongly, and explained how no servant would be in his house by four o'clock if I did not get up and show myself, that I came down stairs

and tried to look as brisk as possible, though feeling scarcely able to stand, and as soon as the household was satisfied by ocular demonstration that I had not the small-pox I slunk off to bed again. When the day came for the steamer to sail for New Zealand it was just as much as I could do to get into a cab and drive to the wharf, my friends very kindly seeing all my luggage packed on board.

The *Te Anau* was crowded beyond measure, as the day before she sailed it was advertised that she would on her voyage to the Bluff visit some of the Sounds on the west coast of New Zealand. This was an unexpected piece of good fortune, and promised ample compensation for my week's delay. Many of our old *Garonne* fellow passengers came down to see us off. The screw commenced its revolutions, and at last we were on our way to New Zealand. It was about 11 A.M., a bright sunny morning, as we slowly steamed down the crooked Yara, a small tug leading the way to pull our head round the sharp angles; a good deal of reversing and "full speed astern" being every now and then necessary to avoid sticking fast in the banks. The Yara, now nothing more than a crooked ditch through soft marshy flats, could easily be turned into a straight canal, and so become a fitting avenue to the great city. The government docks at Williamstown, in which the *Afrika*, a Russian iron-clad, was now undergoing repairs, are I believe a difficulty in the way; they would be practically useless if the

Yara was diverted from its present course, and many private interests are also at stake. After some remarkable escapes of being stuck fast, we at length sighted the open bay. Then came a sudden check, then "full speed ahead," then "astern." It was no go, however, in either direction; we were stuck fast, and the tide was ebbing. To pump out one hundred tons of water ballast was the work of a few minutes, but still no move. Another passenger steamer coming down gave us a pull, but without effect; a barque in trying to pass us stuck fast too. The tide had now fallen a couple of feet; so there we were, in this wretched drain, with the sewage of a great part of Melbourne drifting past our side, under a blazing sun for nearly twelve hours. Being still very weak, and feeling fairly done up, I turned in early and never awoke during the tugging process, which succeeded in getting us afloat just at the top of high water at 11 P.M. When I did awake we were outside Port Phillip Heads, and steering for Bass's Straits.

About sunset the high land of Flinders Island became visible, and shaping our course for Bank's Strait, the narrow opening furthest to the southward, we sighted Goose Island light, then Swan Island light, and turned off down the eastern coast of Tasmania. As the wind was off the shore we had a peaceful night, the sea being quite smooth, as became the Pacific. Next morning the purple hills and pretty bays which we passed lent no little interest to our voyage, but as we approached Tasman's

Peninsula the scenery became extremely bold, our course being close along the base of immense cliffs of columnar basalt on a grander scale than those of the renowned Giant's Causeway; an islet with tall turrets and spires of basalt stood off a little from the highest part of the cliffs, leaving a passage through which, I believe, we might have steamed with but little risk. There being a heavy swell on we kept outside, and rounding the islet to the westward, entered Storm Bay and steamed up for Hobartown.

No harbour could be more completely land-locked or commodious, none are perhaps more beautiful than the estuary of the Derwent. As we steamed over its glassy surface, which reflected the hill-sides clothed in rich woods of eucalyptus and the great hump of Mount Wellington towering 4,000 feet over all, pretty homesteads came into view, farms looking particularly settled and home-like, hedgerows and corn fields, such as we had not seen since the Lizard Lights sank beneath the northern sea. The gum tree woods are a little too dingy in colour, for though the individual trees possess pretty shades of green when closely inspected, yet on account of the leaves being placed edgeways none of this green is reflected from the surface of the forest. The leaves are, as it were, in their own dark shadow, and the general effect is as though the foliage had been charred to a greyish black.

A few yachts slipping along in the little breeze, which

ruffled the surface in "cats-paws," added to the air of comfort and ease which seemed to pervade the scene. After rounding a point—off which the shore doctor came to inspect us, when we experienced quite a new sensation as the words "all well" were pronounced—we steamed into the basin of Hobart, past two trim English men-of-war cruisers, and made fast to the wharf. Some vessels lay alongside us, and a number of small craft of about thirty to fifty tons, provided with centre boards and Ketch rigged. These seem to do all the coasting trade. An old barque of about 300 tons, built on the "coal-box" lines was landing casks; the "crow's nest" at her mast head, and the long whale boats hanging from her davits, told us of her avocation. Hobart is a whaling centre for the southern sea.

Round the wharves are fine stone-built warehouses, all, unfortunately, with their eyes closed in tranquil sleep; grass grows on their window sills, and with the exception of a timber yard and the whaling station there are no other signs of trade. As we walked up through the town we passed a Bank which had over it "Established 1823," that is, years before great Melbourne was dreamed of—but what a contrast! The town is laid out upon the most approved plan; all the streets, like Melbourne, run at right angles, and so wide that a dozen carriages might drive abreast. Over hill and dale they run in perfectly right lines, but, like the warehouses and the wharves, there is a silence

which causes the rumble of an ordinary cab to attract attention. Many of the streets are grass grown ; in some, dogs disporting themselves in groups were the only signs of life. The little old-fashioned, trellis-decorated, vine-sheltered houses, with the panes of glass in their windows six inches by four, and sun-flowers growing in the little front gardens, are "quite too utter" for this age of progress. Some of the houses have fine Norfolk Island pines growing in front of them, strange in their symmetry, and by their size testifying to the age of the houses behind them. There is no hurrying and bustle ; everything is done leisurely. There is a sensation about the whole place like what one experiences when walking through a country town at home at four o'clock on a summer morning.

The fashionable streets into which the shops have concentrated themselves are more lively, and the number of charming young ladies one meets is quite distracting. Why are there so many young ladies in Hobart ? is the question I felt bound to ask ; and the answer I got was—all the young men go off to Melbourne or elsewhere, and leave their sisters at home. This, I suppose, is why Her Majesty's ships *Emerald* and *Miranda* seem to find Hobart a good centre from a strategic or some other point of view.

My walk ended at the top of one of the wide grass-grown streets which runs straight up the side of a hill, so steep that a carriage could hardly ascend it. Behind me

the summit of Mount Wellington, which often has snow on it even in summer, showed itself above the gum tree woods of the spur on which I stood; and before me, with the town like a map at my feet, lay the wide surface of the harbour. It was a charming view, and as the air seemed delightful—perhaps a little too warm in the middle of summer—I could realise that not one word too much has been said by those writers who have enlarged upon the suitability of Tasmania for those persons who seek a home with a fine climate in the Australias.

Hobart being *the* place for opossum rugs I purchased three, varying in price from seven pounds for one of black opossum, to twenty-five shillings for one made up of scrap skins, but of good practical value.

On returning to our steamer I was interested to see what Tasmania had to send to New Zealand.

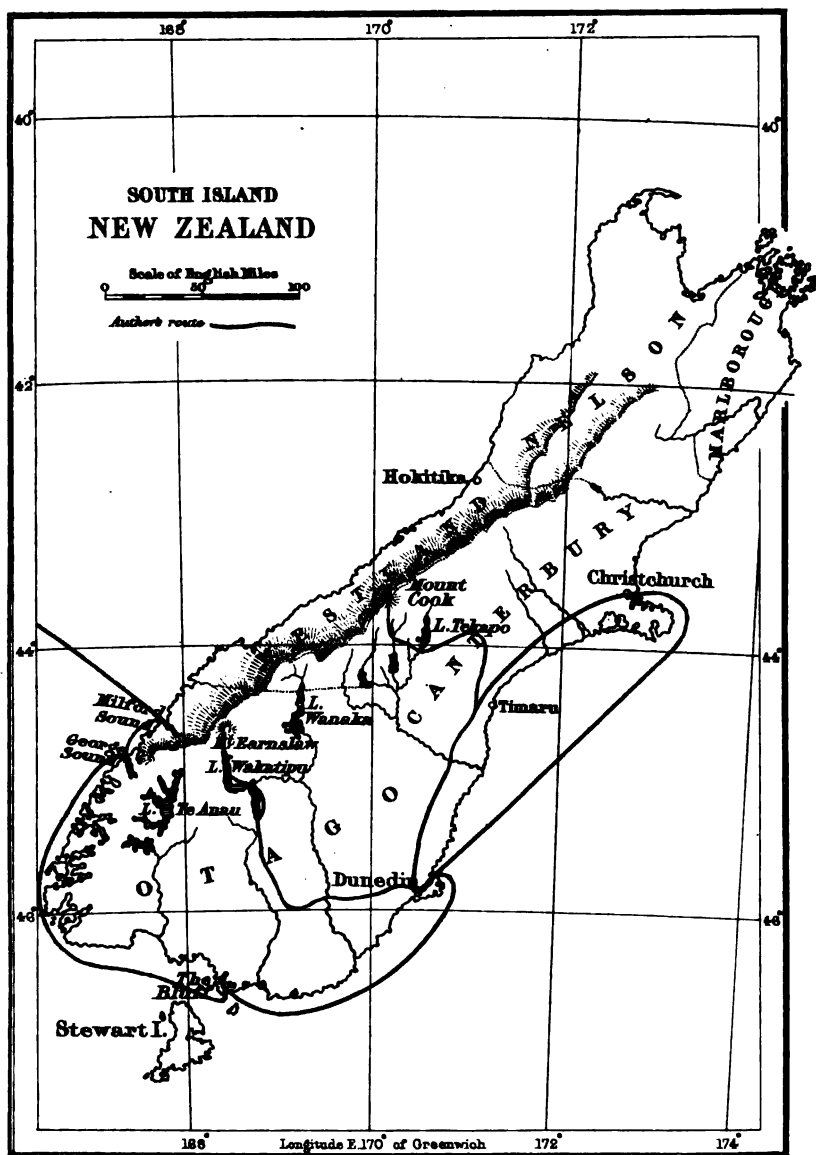
The great bulk of our cargo from Tasmania consisted of split staves of gum tree wood for fencing, a thousand cases of ripe greengages, apricots, pears, and other fruits, and fifty casks of raspberries for the manufacture of jam and syrup in New Zealand. A few pigs of tin were also taken on board, and called to mind the fact that the Tasmanian mines are doing well, and show many signs of doing better in the future. But the great period of Tasmanian prosperity was when it was the garden which produced food for the gold workers in Victoria at a time

when no one in that colony could waste their labour in growing wheat for themselves.

The decks of the *Te Anau*, already too small for her crowd of passengers, were now further circumscribed by the piles of fruit cases. The hold was full, and the convenience of the passengers was not worth considering, so for the remainder of the voyage we had to rest content with a constant clamminess from the squashed fruit on everything we touched, and a heavy odour of jam mingling with the breezes of the South Pacific.

With the sweets of Tasmania thus impressed upon us in the most high-handed and objectionable manner possible, we left Hobart and Tasmania, and the land of 'possums and gum trees, and kangaroos, and the whole marsupial family behind us.

The next land we should see would have an entirely different fauna and flora; the next hills over which our sun should rise would be the High Alps of New Zealand.



Stanford's Geographical London.

London: Macmillan & Co.

CHAPTER V.

"Looms there the New Land :
Locked in the shadow,
Long the gods shut it,
Niggards of newness,
Them the o'er old."

LOWELL.

A glance ahead.—Topography.—Natural history, &c.

WHILE traversing the 900 miles of deep sea lying between Tasmania and New Zealand, with nothing to distract our attention but the albatrosses and molly-hawks, we shall do well to form some definite idea of the goal of our long voyage.

New Zealand consists of a great range of upheaved stratified rocks, the main axis of elevation running from East Cape in the North Island, to the south-west corner of the South Island, where the mountains split themselves up into a number of radiating ranges, Stewart's Island being an outlier of one of these.

In the Northern Island, most of the low land lies to the west of the main line of hills. In the South

Island the reverse is the case, and the great plains, destined to support a large population, are to the east of the mountains. Taking this into consideration, and the fact that the prevailing winds blow from the great ocean to the west, the distribution of rain-fall may readily be understood. Observations taken at Taranaki on the western, and Napier on the eastern sides of the dividing range in the northern island, give annual rainfalls of fifty-four inches and thirty-four inches respectively. In the South Island, where the dividing range reaches its greatest development, we have a much larger variation, the annual rainfall at Hokitika being measured at 118 inches, while at Christchurch it is only twenty-five inches, and at Dunedin thirty-three inches.

For the sake of comparison I may remark that the highest rainfall measured in England is equal to the highest I have seen recorded for the west coast of New Zealand, and the lowest in England is about the same as that of Christchurch.¹

According to the measurement by degrees of latitude, New Zealand occupies the same position in the southern hemisphere as an area including the south of France and Spain, does in the northern, its mean annual temperature being about 55° Fahr. compared with 51° for

¹ The largest annual rainfall which I have seen recorded for any place on the earth's surface was that registered at Cherra Punji, in Assam, in the year 1861. It amounted that year to 805 inches, of which 366 inches fell in the month of July. The mean annual fall at this station is 559 inches.

that of London. This, however, gives but an imperfect idea of the real climate, as equal mean annual temperatures may be found for Astrakhan, and Ireland, where the climates are as diverse as it is possible to imagine; the main consideration is to know the range between extremes. The mean summer, and mean winter temperatures have been measured in Auckland at 66.92° and 52.34° respectively, and in Dunedin at 57.20° and 50.72° ; the fluctuation between winter and summer temperatures being about half what it is in Ireland.

The Northern Island has been so modified by volcanic activity that the highest mountains are not to be found on the main axis of elevation, but rising as isolated volcanic peaks from the lowland to the west. Here Tongariro, Mount Egmont or Taranaki, and Ruapahu, raise their heads, the latter being the highest, and bearing on its round summit a cap of eternal snow.

Tongariro, no longer active on a large scale, still emits from its crater clouds of steam, similar to those rising from the numerous geysers and solfataras which abound in the belt of country extending from its base, through the world-famed Rotomahana to the White Islands lying off the northern coast. It was for many years held sacred by the Maories, and was the chosen tomb of one of their great war chiefs. The conception was grand in the extreme; he was to be laid to rest in its vast crater, a sepulchre worthy of a warrior whose prowess

was renowned among all the peoples who looked up to Tongariro as the centre of their world. But the Maories were not equal to the task. They carried the corpse with all due honours part of the way, and, setting it down on a rock, forbade any one to approach the mountain on pain of annihilation.

In March 1851 Mr. Dyson, a settler residing in the vicinity of the mountain, succeeded in eluding the vigilance of the Maories, and of the guardian demons, and after a fatiguing climb over scorix reached its main crater; since then the feat has been accomplished by several colonists and travellers.

No great difficulties, either physical or demoniacal, further than the length of the ascent, have preserved the summit of Mount Egmont from constant invasion since it was reached by Sir F. D. Bell. This fine peak rising near the western coast is looked upon by the Maories as the third brother of the giant family, who, on account of some disgraceful conduct, was banished by Tongariro and Ruapahu to this great distance from his home. Ruapahu (9,195 feet), the culminating point of the North Island, was the last to succumb to the inroad of the *Pakeha*; its snow-clad summit was, I believe, reached by Sir George Grey, and he found there a crater and hot springs.

Though the volcanic energy is dying out, evidences of its former activity are numerous; Cook's Strait, dividing the North from the South Island, was possibly brought

into existence, and the great backbone of the island group fractured by some explosion or subsidence, the faint repetitions of which make themselves recognised up to the present day at Wellington in frequent earthquake shocks, disturbing the peace of its inhabitants.

Crossing these straits to the southward, we find in the provinces of Nelson and Marlborough a number of high alpine ranges, inclosing charming valleys. Further south these ranges draw together, till, in the great range called by Captain Cook the Southern Alps, they assume the form of a great mountain wall, sending off numerous spurs, rising into bold alpine peaks, and for over a hundred miles possessing no col or pass free from eternal snow and ice. Mount Cook, or Ao-Rangi as it is called in the Maori tongue, has been measured trigonometrically by Mr. Roberts of the Westland survey department. He took observations from twenty-two stations, averaging only sixteen miles from the mountain, and his result of 12,349, feet calculated in 1881, may be considered as final. Fourteen of his observations were within five feet of the mean above mentioned. Mount Cook is no doubt the monarch of the range, but many other peaks, such as Mounts Tasman, Darwin, Sefton, and Tyndall will most probably, when measured, prove to be over 11,000 feet. To the eastward of this high mountain wall the great Mackenzie and Canterbury plains spread themselves out, contrasting most strikingly in their almost perfect flatness with the

serrated crags of the Southern Alps. On their western flanks the mountains slope rapidly to the coast, the narrow strip of land between them and the Pacific Ocean, known as the province of Westland, being often not fifteen miles broad.

Passing to the southward towards Otago we meet with a deep depression cutting right through the range, and known as Haast's Pass, beyond which the peaks assume nearly their former proportions; Mount Aspiring, on the very boundary line of Canterbury and Otago, being 10,000 feet high.

In Otago the mountain chain once more spreads itself out into a multiplicity of ranges, resembling, according to Professor Hutton's simile, the fingers of an outspread hand, Mount Earnslaw and Cosmos Peak being among the highest and most striking in this southern portion. Many spurs from these ranges strike the coast, and inclose between them a number of fjords, or sounds, as they are usually called in New Zealand. In the grand outlines of precipices and peaks; in the richness of the sub-tropical verdure, amidst which white glaciers glisten in the deep ravines; in the countless waterfalls and cascades which never fail, their sources being in the eternal snows, this portion of the coast presents a combination of grand scenery which I believe is unsurpassed by anything in the world.

Inside these coast and fjord ranges the depressions are filled by large fresh-water lakes, reproducing in

many respects the beauties of the sounds, and like them being profoundly (some more than 1,000 feet) deep.

Unlike the mountains of the Northern Island the great peaks of the South Island have hitherto successfully defied the attempts made to scale them. In the year 1862, Doctor Julius von Haast, accompanied by Mr. A. D. Dobson, his assistant in the survey of Canterbury, reached an elevation of 7,500 feet on the southern spur of Mount Cook. The main peak rose before them like a great tent in outline, and Hochstetter says of it—"The gigantic snow and rock-pyramid of this mountain terminates in a curved sharp ridge, the northern point of which is about 600 feet higher than the southern, and the sides of which are so keen and steep that an ascent of it seems impossible." After this there are numerous stories afloat of persons having attempted the ascent, but I do not believe that any one reached a higher point on the mountain than did Von Haast. In 1873 the Governor of New Zealand, Sir G. F. Bowen, offered official aid to any member of the English Alpine Club who would undertake the ascent. For nine years the challenge had lain without being taken up.

Dr. Hector, director of the Geological Survey, gained an elevation on Mount Aspiring about equal to that reached on Mount Cook by Dr. von Haast, and had to spend a night at 7,000 feet above the sea level amidst snow and ice.

Although the great mountain peaks so far resisted the explorers of their secrets we must not think that the New Zealanders were behindhand in that spirit of geographical exploration so characteristic of the northern races of the world. Dr. von Haast's wonderful map of the Southern Alps is a monument to the industry of himself and his staff, and could not have been compiled without many an arduous journey, many a risk of life and limb, and many a day of trying exposure without proper shelter or sufficient food. Few books are more interesting to the explorer or the geologist than the one in which he describes his adventures during that first survey of the South Island. The difficulties of prosecuting such a survey have been sadly illustrated by the number of lives which were sacrificed to the fury of the mountain torrents, the most fruitful source of death in New Zealand exploration.

We must now take a glance at the geological structure of the islands.

The oldest metamorphic rocks, gneiss and granite, appear in the ranges inclosing the sounds and lakes of Otago; their out-crop thins out as we go northward along the western flanks of the Southern Alps, appearing again in the same line farther north and indicating that the axis of upheaval was parallel to, but farther to the westward than, the present line of greatest elevation. On the top of these crystalline rocks, and

dipping with them in an easterly direction, lie the foliated gold-bearing schists, above which are the sandstones and slates of great formation referred by Dr. Hector to the newer Silurian age, and of which the highest peaks of the Southern Alps are composed.

The great upheaval of the main chain took place probably in Jurassic times, and though newer formations have been deposited on the eastern flanks during partial subsidences the highest peaks have probably never since that period sunk beneath the Southern Sea. Thus we have a mountain system of far greater antiquity than our Northern Alps, the high peaks of which formed part of the ocean bed as late as the Miocene period. Their exposure to the frosts and storms of ages is abundantly evidenced by the heaps of loose, splintered stones to which all but the highest peaks have been reduced.

Besides the first general outline determined by the first upheaval, glacier action has played an important part in producing the present contour of the land. There is probably no country in which the evidences of ancient extensive glaciation are more apparent.

The deep sounds and lakes have evidently been scooped out by glaciers, dams of old morain accumulations block most of the valleys, showing sharply-defined terraces of ancient lake margins; and many of the hills of the lowlands between the river basins are formed of the accumulated debris brought down by the glaciers.

Though the present existing glaciers are insignificant compared with those of ancient days they are still of vast size. The Tasman glacier is the most extensive, being at least eighteen miles long, nearly two miles wide at its lower termination, and in one part of its course attaining a breadth of three miles. The great Aletsch glacier in Switzerland is fifteen miles long by one mile wide; but in the Himalayas we meet with one sea of ice, formed, by the union, on the watershed, of two glaciers in the Mustagh range, sixty-five miles in length. Another glacier in the same neighbourhood is twenty-one miles in length, and from one to two miles wide. We see then that though not the largest, the Tasman glacier may rank among the grandest ice-streams outside the regions of polar snow.

Besides the individual grandeur of some of these great ice-fields, New Zealand presents us with conditions of glaciation which are most instructive when read in connection with the evidences of a Great Ice Age in other parts of the world. Situated as these islands are, in a latitude similar to Spain and Italy, we are naturally much interested in finding that the line of perpetual snow is about three thousand feet lower than it is in Switzerland, and that glaciers descend to within a few hundred feet of the sea. In Switzerland no glaciers descend to a lower level than 3,500 feet above the sea. The Fox glacier on the western slopes of Mount Cook, in a corresponding latitude

to the city of Florence in the northern hemisphere, descends to within 670¹ feet of high-water mark.

On the eastern slopes of the Southern Alps the glaciers do not at present reach below the 2,000 feet line, but a curious anomaly presents itself:—On the western slopes, where the glaciers descend lowest, the line of winter snow is 700 feet higher than it is on the eastern side of the mountains. This is no doubt due to the proximity of the temperate sea on the one side and its absence on the other. That this influence is even greater than is shown by the phenomena may readily be understood, when we call to mind the influence which the heat radiated from the plains 2,000 feet high to the eastward ought to have in pushing up the snow line.

The reasons why New Zealand glaciers descend to such low levels are not difficult to find. In the first place, the great amount of moisture brought by the westerly winds (evidenced by the rainfall of 118 inches at Hokitika) supplies an enormous amount of snow which accumulates on the western sides of the high peaks, and discharges itself down the steep glens in the form of glaciers. If the mountains were no more than 4,000 feet high there would probably be no glaciers whatever, as the vapour,

¹ Mr. D. Herbert Cox, F.G.S., in *Report on Westland District*, published by the New Zealand Geological Survey Department.

not being driven upwards into the frosty levels of the atmosphere, would fall as rain or pass on to the eastern plains.

Secondly, although the sunshine in New Zealand is no less brilliant than it is in Italy, the mean annual temperature is 10° lower than if it occupied a similar position in the northern hemisphere; similar latitudes in the southern hemisphere being colder than in the northern owing to the absence of large land areas and other cosmical causes.

The British Islands very fairly represent the climatal conditions of New Zealand; so that if in Ireland, Wales, and Scotland we had mountain ranges as high as the Southern Alps we should have glaciers on the same scale; the warm vapour-charged winds from the Gulf stream would assist rather than retard the development of great snow fields. Were our own mountains but twice as high as they are, all other conditions remaining the same, many of our glens now clad with heath and gorse would be found filled with glacier ice. Mountains in New Zealand of less than 7,000 feet elevation—Pembroke peak, for example—bear heavy caps of glacier ice, and send ice streams down the gullies in their sides.

Doctor Hector, when comparing the amount of permanent ice in the Southern Alps with that of the Bernese Oberland, estimates the former at 160 square miles compared with 140 for the latter.

Passing from the histories of the past as recorded by the rocks to the consideration of the inhabitants of these southern climes, many interesting thoughts claim our attention.

The tribes of dark brown men inhabiting Australia have been referred by ethnologists to the Melanesian race; and though not so degraded as was supposed before their laws, complicated social system, and religious beliefs came to be studied, they occupy but a low position in the scale of humanity. A chapter of human history has already closed on the now extinct aborigines of Tasmania, who, on account of their small numbers, were the first to vanish. The last of the Tasmanians was a woman, "Turcanini" by name, who died in the year 1876, aged about 70 years. Ugly tales are afloat about the death of "King Billy," the last man of their race, a fine young fellow, who earned his livelihood as a sailor in a Hobartown whaler. They say that some one, fearing lest his skull might be lost to science amongst the ice floes of the Antarctic Sea, took the opportunity of his return from a whaling voyage in 1873 to give him some physic which put him beyond the want of a second dose. A commotion was created at the burial, owing to the fact being discovered that his head had been skinned, the skull removed, and the skin replaced over some suitable stuffing. This horrible story was at all events believed in by Turcanini. She was located with a family in the country who took care of her by

direction of the Government, but till the day of her death she lived in terror of falling into the hands of those whom she thought took King Billy's life. So the story goes amongst the old colonists, from whom I heard it. I give it for what it is worth. There was good reason for wishing to have the skeleton preserved, as very few are extant, owing to the Tasmanian custom of burying their dead in hollow trees which were destroyed in the frequent forest fires. Had the Tasmanians lived longer they might have been found to be not so degraded, as people are too apt to assume with regard to races whose language and customs are not understood.

We now pass to the natives of New Zealand. The first discoverers of these islands found there a people who were in no way like the Australians or Tasmanians. They evidently belonged to the great Polynesian family, as Captain Cook's Tahitan interpreter was able to understand their language; though in many respects it differed from his own, it had evidently sprung from the same root. Anthropologists also recognise Polynesian peculiarities in the true Maori skull. This is a new difficulty connected with New Zealand, as the Polynesian Islands are in a great belt across the Pacific, a long way removed from New Zealand, the nearest Pacific Islands being inhabited by the Melanesian tribes. Whence came the Maori? is more easily asked than answered. The Maori traditions tell us that in

the times gone by, variously estimated at 600 and 300 years ago, their ancestors came in a fleet of canoes from *Hawaiki*. Some say *Hawaiki* is only mythical, and may mean the land of disembodied spirits. Their tribes are named after the chiefs who then landed. A race of savages were met with in New Zealand and by them exterminated, and remains of these aborigines are found in caves under similar conditions as are the vestiges of primeval men so often brought to light in Europe. There is much still to be learned regarding the early race of New Zealanders, but they were probably of Melanesian race, and so Melanesian peculiarities in the typical Maori skull have led Professor Flower to venture on the conclusion that the original Polynesian invaders mixed with the race found inhabiting the South Island, and that the Maori is the product. In the cave deposits ransacked by Dr. von Haast and others, numerous remains of this primitive race have been discovered, and their occupation of the island may date back for thousands of years, perhaps even to the last Great Ice Age.¹

In these cave deposits the bones of a dog have been discovered, but the only land mammal existing in the islands when first visited by Europeans was a rat, which is now rapidly becoming extinct before its Norwegian rival, and as it may easily have been imported with the

¹ For a description of the exploration of Moabone Point Cave, near Christchurch, see *Nature*, October 26, 1876.

Maories, we may look upon New Zealand as a little continent totally devoid of land quadrupeds. Stories go of an otter-like animal having been seen, but as no specimen has ever been captured, the creature must for the present be relegated to the catalogue of unicorns, sea-serpents, and such problematical animals.

This absence of land mammals is all the more astonishing when we come to consider the extraordinary development of bird life. Remains of gigantic ostrich-like birds, known popularly by the Maori name *moa*, have occurred in such abundance that Hochstetter describes a waggon load having been exhumed in a few days' work from a series of caves in the province of Nelson, while at Glenmark over a thousand specimens have been discovered; the eggshells, feathers, and coatings of the legs and feet have come to light, and by careful study Professor Owen has detected and described no less than twelve distinct species of the genus *Dinornis* or *Moa*. These twelve species are now classified under five genera. The large *Dinornis maximus* must have measured about twelve feet when erect, from the crown of his head to the ground; other species were not so high. They all possessed immensely strong, heavy legs, and do not seem to have been swift runners like the ostrich. They may not have frequented the plains so much as the scrubby valleys, their nests having been discovered in caves near Lake Wakatipu, a rough, broken country.

That vestiges of identical species of moa should be discovered in both North and South Islands indicates their great antiquity. Cook's Strait must have been non-existent; and from the position of their remains they seem to have inhabited the island previous to and during the last great ice age.

The earliest inhabitants of whom any remains have been preserved hunted the moa. Their successors seem not to have done so. Whether the moa was still extant when the Maories arrived is a debated point. Dr. Haast believes that the moa has been extinct for thousands of years, and that the Maories knew nothing whatever about the bird till they heard of it from the whites. Those who maintain this immense antiquity of the period when the moa ceased to be, have to account for the large number of moa bones found scattered on the open surface of the ground. Mr. Hutt, one of the earliest settlers, describes picking them off his sheep-run and piling them in heaps.

Though the gigantic moa is no more, the three species of *apteryx* or kiwi still represent the race; but these, too, are rapidly vanishing off the face of the earth.

With the skeletons of moas remains of a gigantic rail (*Notornis*) have occasionally been exhumed.¹

¹ That this bird is not extinct has recently been demonstrated by three specimens having been killed. The skins of two of them may be seen in the British Museum.

Like the moa, this bird has a smaller representative in the weka¹, which in the mountain glens is the commonest of all New Zealand birds, and with whose odd habits every traveller becomes acquainted. The kakapo,² or ground parrot, is another remarkable bird, and as these helpless terrestrial birds are characteristic of New Zealand, we may conclude that these islands must have been devoid of land carnivora for ages in the past. This absence of weasels, stoats, foxes, *et hoc genus omne*, which regulate and keep in check the too rapid multiplication of helpless and prolific animals in the old world, ought to have been borne in mind ere rabbits were let loose to the confusion of the colony—Darwinism is not all mere theory.

Turning to the floras of Australia and New Zealand we meet with special features which, while giving to each a well marked character, differentiate them in a most decided manner. Nothing is more striking in an Australian landscape, even to the most casual observer, than the dark, blue-black appearance of the foliage of the gum-tree forests, a softer green being in some places caused by the presence of acacias and other trees. In New Zealand no gum trees or acacias were found indigenous, but it has its grand forests of kauri pines peculiar to itself, and the flax-producing lily, *Phormium tenax*, peculiar to New Zealand and Norfolk Island. Though ferns are not absolutely

¹ *Ochydromus Australis*.

² *Strigops habroptilus*.

peculiar, they form, in the variety of their species and luxuriance of their growth—from the great arborescent species (*Dixonia antarctica*), the lovely todea (*Leptopteris superba*), down to the exquisite little *Hymenophyllum*—a most characteristic feature of the forest scenery.

Twenty years ago, when Hochstetter wrote his account, the belief in special centres of creation was called in to explain these great peculiarities of animal and vegetable life, and that the moa was created for New Zealand and the kangaroo for Australia seemed a theory quite satisfactory. But in these days, when the tendency of scientific thought leads us back to the old idea of a centre of life in the Asiatic continent we are driven to discover some derivative source for all the varied animals and plants which we find in out-of-the way parts of our globe, no matter how far they have been changed by the conditions of the world around them from the original type.

This problem is more difficult to solve in the case of New Zealand than in that of any other part of the world. A solution is given by Mr. Wallace in his *Island Life*, and as it seems more reasonable than any other which has been attempted we must accept it for the present, and those who are interested in the question will no doubt study with pleasure his chapters on the subject.

Geologists have shown that during the chalk age of Australia that continent was divided into two islands one consisting of Western Australia, the other of

Queensland, New South Wales, Victoria, and Tasmania; this eastern portion was probably continued northward and included some of the great Malay Islands. The western island was covered by gum-tree forests and inhabited by kangaroos; the eastern island possessed a more tropical vegetation, and amongst its numerous inhabitants large terrestrial birds were to be found, of which the emu in Australia and the cassowaries of the Malay Islands are the living representatives.

During this period New Zealand and Norfolk Island were united with Eastern Australia.

The reasonableness of such an assumption is borne out by the contour of the sea bottom as delineated by recent soundings. A way would thus be opened for the arrival of wingless birds, and the tropical character of that portion of the New Zealand flora which corresponds with Australia would be accounted for. Later on the connecting land area sank beneath the waves, and the great plains of South Australia arose and joined Western Australia with Eastern Australia. The eucalyptus and kangaroo soon spread themselves over the newly formed land, but too late in the day to reach New Zealand, which was now finally established as an island. These movements, though they may seem to require great upheavals and oscillations of land areas, are really not so great when we come to consider the changes which must have occurred since the time when the eucalyptus and

kangaroo were common in our own northern land. That they did live in England is proved by the remains of forests of the former being discovered in the Island of Sheppy ; and since the days of Cuvier the existence of marsupial animals in northern Europe, in the days gone by, is an established fact.

I have endeavoured in this chapter to gather together in some sort of sequence the thoughts and facts associated in my mind with the land which was up to the year 1882 no more to me than one of "the hunting-grounds of my imagination."

CHAPTER VI.

"High o'er the cove vast rocks extend,
A beetling cliff at either end :
Beneath their summit far and wide,
In sheltered silence sleeps the tide,
While quivering forests crown the scene,
A theatre of glancing green."

CONINGTON'S *Virgil*.

West coast of New Zealand.—Milford Sound.—First sight of the
Alpine snows.

WE drew near to the south-west coast of New Zealand in weather which may be considered fairly characteristic of those regions—a westerly gale, accompanied by rain and a heavy sea.

Believing that we should sight land early next morning, I retired to my berth about 9 P.M. on the evening of February 5th. About 3 A.M. I was awakened by the sudden stopping of the screw, and hurrying on my clothes I made my way up the companion, holding on to the hand-rail with all my might, as the pitching and rolling, accompanied now and then by a quivering shock

as a sea broke against our broadside, made it difficult to get along.

On deck it was a degree worse. Sheets of rain driven before fierce squalls of wind and splashes of cold spray made the shelter of one of the ship's boats the only available spot from which an outlook might be gained without being wet through. Here two or three passengers stood, and here I joined them.

There was nothing visible on sky or sea; the sparks from the funnel made the pitchy darkness seem darker, and our voices were lost in the shrieking of the wind through the rigging.

"What's up?" I inquired.

"Nothing particular," came from some one in the darkness; "except that the captain saw some mountain peaks above the clouds against a bit of clear sky about half an hour ago, so we must lie to till the weather clears."

Of all motions of a steamer none is so utterly abominable as that of bobbing about in a rough sea without way on, and many of the passengers would at that moment willingly have foregone the pleasure of seeing the most beautiful part of the New Zealand coast, had their votes been taken, which fortunately they were not. As daylight came the screw once more began to revolve, and we steamed slowly ahead, cleaving our way through great banks of white fleecy clouds and teeming

rain. The captain knew we were close to land, so every eye was strained to catch the first glimpse of it. At last the words "Land on the starboard bow" came from the look-out on the forecastle; and dimly through the mist we saw a black rock with white breakers shooting up its sides. Another moment, and emerald-green foliage showed above it, and as the steamer's head swung round to the northward there appeared a high sloping headland all covered with fern vegetation. The north-westerly gale had driven us too far to the southward, so we dashed along through the seas skimming close to the land, which was now and then completely hidden by heavy showers of rain.

As we passed the headlands there was often not two waves' distance between us and the rocks, and had we not had the greatest confidence in our captain we should have considered it a perilous style of navigation on a lee shore. The contrast between the white breakers, black rocks, and green foliage was lovely. At short intervals we passed little bays into which foaming streams tumbled from the hills above and found their way to the sea over sand-bars which seemed almost to dam them back. There were, however, no high sea cliffs as might have been expected on this, the weather side of the island. Dr. Hector concludes that the sloping form of the headlands is a proof that at present the land is either rising or sinking, and though there is important evidence on both sides of the

question, showing that various oscillations have taken place, the former theory seems the most probable.

After pounding through a head sea for about twenty miles we came to an outlying sea-swept rock, over which a few albatrosses soared, and rounding it in a furious squall of wind and rain we entered the still waters of Milford Sound.

Vertical cliffs rose for thousands of feet on either hand, and we drove in before a blast so strong as almost to make steaming unnecessary: the surface of the sea would now and then be torn off in sheets, driven along in spindrift and again all would be as calm as glass. Waterfalls resembling the Staubach came down the cliffs from far above the clouds, and were blown away into spray, while in mid-air, by the fury of the storm. Wherever vegetation could get a footing on these immense precipices, lovely tree ferns and darker shrubs grew in profusion, all dripping with moisture and running up the cliffs in long strips of verdure till lost to our view aloft in the torn white mists. The vivid green of the foliage was the feature of all this wondrous scene which struck me most. Two or three miles up the sound we steamed close to an immense waterfall which, in one plunge of 300 feet, leaped into the sound with a roar like thunder, drowning our voices and sending great gushes of spray over the steamer's deck. The face of another great cliff was so draped with numberless small falls that it seemed to

be covered with a veil of silver gauze about 300 yards in width. While passing along here we fired off a gun. Echo after echo resounded from cliff to cliff, and from invisible crags high over our heads the echo again returned as a voice from the clouds.

The mists now showed an inclination to clear off, the rain ceased, and as we entered the inner basin of the sound the forests increased in beauty. The totara pines, draped with festoons of grey lichen, contrasted well with the soft green of the great fern fronds and formed a suitable background to the scarlet blossoms of the rata,¹ which here and there lit up the upper surface of the forest with patches of intense colour. Gleams of sunshine began to dart through the clouds, giving a momentary flash on one of the numerous cascades, and then, passing over forest and cliff, added new beauties of light and shade. When about eight miles from the open sea a booming sound rose high over the voices of the numerous cascades, growing louder as we advanced, and rounding a forest-clad point we came upon the grandest of New Zealand waterfalls—the great Bowen fall. Its first fall is only about fifty feet into a rock basin, but leaping from it upwards and outwards in a most wonderful curve, it plunges down with a deafening roar in a single leap of 300 feet.

The *Te Anau* was allowed to drift up in the eddy caused by the fall, and being caught by the stream

¹ *Metrosideros lucida*.

in the midst of drenching clouds of spray, she was spun round as though she were a mere floating twig ; then steaming to a short distance she stopped again. The weather had now taken up sufficiently for us to see through an opening in the clouds the snow-clad top of Mitre Peak, which rises in one great precipice of 5,000 feet from the surface of the Sound. The glacier on Pembroke Peak showed for a few minutes and was then lost to view, but what we saw formed the grandest combination of scenery upon which my eyes had ever rested. As these Sounds are from 200 to 300 fathoms deep, there are but few places in them where a ship could anchor ; had we stayed there for the night we should have made the steamer fast to the trees.

While pausing to admire the scenery and fire shots to awaken the echoes, a boat with three men in it put off to us from the shore. At this we were not a little surprised, as we had believed we were in one of those secret places of nature untenanted by man.

On reaching our side they stepped on board, and we learned that two of them had resided in these solitudes for several years, keeping possession of a seam of asbestos which they have discovered, till the time comes when it may be worked with a profit.¹ They trust for supplies to the occasional visit of one of the Union Company's steamers, and to the Government vessel

¹ Now that asbestos paint is being adopted as a safeguard against fire they may make a good thing of their discovery.

which goes round periodically inspecting lighthouses, and looking after a few straggling settlers like our friends. The third man who came off in the boat and who remained on board the *Te Anau* was an enterprising explorer who had spent some weeks trying to discover, what many others tried to discover with no better success—an overland route from Milford Sound to the inhabited country to the eastward.

Only ten miles of mountain and forest divide the head of Milford Sound from the Greenstone track to Lake Wakatipu with its steamers and railway, but the scrub is so dense and the mountains so rugged that it has never been traversed.

The boat now put off from the steamer, laden with the supplies we had brought to the men, and the signal "easy ahead" being given we slid gently through the still water, and skimming along the shore close under Mitre Peak passed Anita Bay—famed for its vein of the precious jade or greenstone, from which the Maoris made their axes—and then out into the long rollers of the Pacific.

Our course was now to the southward, and we thought we were done with Sounds, but the afternoon cleared so rapidly, the sun shining out and the sea going down, and only a few tattered fragments of the white mists lingering over the wooded headlands and higher peaks, that the captain was induced to give us another delightful experience in George Sound.

We were leaning on the rail admiring the charming bays and rich woods when a great vista opened between the hills, with domes of forest reflected in the still, sunlit water. We exclaimed involuntarily, "How delightful it would be to go up there!" when, to our surprise, the steamer's head spun round and we steamed straight in. Immediately every one ran for their friends, and heads were popped through the skylights calling all on deck. The grandeur of Milford Sound—its great precipices and waterfalls, which reminded us of the Geiranger Fjord in Norway—was not so striking a feature in George Sound, where all was rich beauty. One fall indeed, embowered in trees like the Giesbach, we passed near the entrance, but the dense forests reaching from the sea-level to the snowy hill-tops, the fern foliage and the red flowers of the rata, gave to the scene a glory quite its own.

The expanse of water which we saw on entering reminded us somewhat of the Lake of Brienz, and on reaching its inner end we expected to turn round and come out. But this was only the vestibule, for a deep gorge opened to the right, so narrow that the steamer could barely have turned in it. And now we steamed through the most lovely corridor of rich forest scenery, rising tier above tier to the highest limits of vegetation. On and on we went, past an islet covered with fine trees draped with lichens, the whole reflected gem-like in the still water; thinking that every bend and branching

arm would be the last, till, on reaching it, another charming vista opened ahead.

When about twelve miles from the sea we reached the inner sanctuary, a fitting home of the nymphs. A strong rush of water here met us, while the filmy haze and dull booming of a waterfall filled the air. The screw now ceased its motion, the eddy of the fall drew us along, grazing the rocks and trees which hung their branches almost over our deck ; we slipped past a point and entered a little basin in which we were quite shut in from the view of more than half a square mile of water. Immediately before us the foaming fall plunged into the sound, filling the air with its roar. For a moment we felt as if we were at the bottom of a deep well, so small was the patch of sky overhead, the walls of forest all around rising rapidly for 3,000 or 4,000 feet. The next moment the eddy swept us into the main current of the fall, and though the *Te Anau* was a vessel of some 1,500 tons burden she was instantly spun round and drifted out of the sacred spot in which we can imagine an extraordinary meeting of oreads, dryads, and naiads was immediately convened to denounce the modern abomination of steam navigation.

As we threaded our way back towards the open sea we were able to enjoy the same scenes over again, but somehow or other the keen edge seems always to be taken off one's powers of admiration and observation when retracing one's steps. Sir Joseph Hooker,

remarking on this in his Himalayan Journals, warns travellers on the importance of making all their notes when advancing into an unknown region, and never to trust to gathering them up on the retreat.

The clouds hanging about the mountain-peaks began to glow with the evening red, and as we emerged into the wider portion of the fjord, sea, forest, and rugged peak were bathed in the golden light of the sun, which was just setting over the ocean swell now rolling in lazy undulations, the wind having quite gone down. In our trip up the Sound nothing struck me as more remarkable than the total absence of animal life. No doubt many a bird peeped at us from the deep shade of the ferns, but no living thing did we behold. The kiwis, the kakapos, and other strange denizens of the forest would now be on the tramp, and could we but have anchored in the fjord for the night some sounds of life might have come from the sylvan shades.

Having been up since before daybreak I was now well tired out, and retired to my berth to sleep and dream over the lovely panorama which had passed before us all day. If first impressions go for much, certainly our acquaintance with New Zealand had a charming beginning. Had we not stuck in the Yarra we should also have had time to explore Dusky Sound, one of the most extensive and beautiful fjords on the coast, and particularly interesting as being the harbour in which Captain Cook made a lengthened stay during his second

voyage. He had penetrated the ice barriers far to the southward, crossing the antarctic circle, and after a perilous cruise amongst the icebergs of those tempestuous regions, and being separated from the *Adventure*, his second ship, he bore up for New Zealand, which was the appointed rendezvous. On reaching Dusky Sound and Resolution Island, which still perpetuates the name of his ship, they were pleased at finding an abundant supply of ducks, scurvy having shown itself not only amongst his crew but even in a worse form amongst the few of his live-stock which remained. The poor sheep, with teeth so loose that they could not munch the grass which was brought to them, would no doubt have plucked up courage had they realised that their race should, ere a century had elapsed, occupy the land and become as the sand of the sea shore, innumerable.

When Captain Cook landed, dusky men stood on every headland brandishing spears and war clubs, and when a duck was shot howls rose from numerous natives who had taken shelter in the woods. Now the sound of the miner's pick and the bang of dynamite awaken the echoes, as the rich copper ore is exhumed; any of the natives who remain wear the same clothes as the Europeans, and instead of the war canoe or logs of trees tied together, the Maoris of the south possess well-found smacks, and are a race of hardy fishermen. We saw some of them arriving at the Bluff, hauling down their gaff topsails with great alacrity as

they neared the anchorage. The only peculiarity we noticed was that one or two women formed part of the crew of each boat. These Maories still keep up their nationality, and have a king who resides in one of the small islands near Stewart Island.

Explorers who have attempted to penetrate the yet unexplored region between these western Sounds and the lake district say that they have found tracks of some native tribe which still retains its old mode of life in the forest depths. But, till more tangible proofs of their existence are forthcoming, these stories are treated as no more than travellers' tales.

About midnight it began to blow again, and the bangs of heavy seas on our broadside told us that the stormy character of the New Zealand coast was no fiction. However beautiful these Fjords may be, and however numerous and prosperous the population may become, I fear that on this account the Britain of the south must once and for all renounce the hope of vying with the old country as a haunt for the yachtsman.

It was late next morning when I left my cabin, and coming on deck, found we were driving before a brisk gale through Foveaux Strait, Stewart Island being on our starboard hand. What an absurd geographical classification it was to say that New Zealand consisted of *three* islands! If Stewart Island is to be given this importance we might as well say that Great Britain consists of two islands, England and Scotland forming

one, and the Isle of Wight the other. The albatrosses, Cape pigeons, &c., still sailed round our ship, and never left us till we rounded the Bluff headland and steamed up to the pier—at last I was on shore in New Zealand.

Two telegrams were handed to me on landing; also a letter from the Minister for Railways inclosing free passes for myself and party on all the railways during our stay in the colony. One telegram contained a hospitable welcome to New Zealand from Dr. Hector, Director of the Geological Survey. The other was most comforting; it was from Emil Boss, saying that he and Kaufmann were waiting for me at Port Chalmers. It seemed as if the clouds were at last clearing off my track, and that all would now go well. But the horizon was not as bright as I could wish. The first use I made of my railway ticket was to proceed at once to Invercargil there to consult the doctor, as I still felt very weak from the illness I had contracted in Melbourne, and unfit for the arduous work which I meditated undertaking. Invercargil is situated on a plain as flat as a billiard table, and spreads itself out in wide straggling streets of low houses. A gale of wind at Invercargil must be a terrible experience, as there is nothing to break its force as far as the eye can see. The Southland Plains, on which it stands, are rich in farm produce, and the wool finds its way through Invercargil to the ships at the Bluff. I returned by the afternoon train to the *Te Anau*,

passing over marshy flats in which grew large quantities of the *Phormium tenax*, and near the Bluff, tree ferns were common amongst the clumps of forest on either side of the line. The bright faces of the farmers with their wives and chubby children, who all seemed in rude health, alone took from the dreariness of these great bleak plains of Southland.

We left the Bluff at sunset, and when I awoke next morning I found we were alongside the wharf at Port Chalmers, and ere I could rouse myself to get up, Boss stepped into my cabin.

After a short chat I went on deck and met Kaufmann, then they fetched their baggage from the hotel, and we were free to take a run up to Dunedin, as the steamer would not proceed until night. We were of course much elated at having met after all the waiting, first in Melbourne, and now a week at Port Chalmers. I asked them what they had been doing.

"Well, it never stopped raining since we came, but we have been taking some walks." This was at all events better than the Melbourne streets.

Boss asked me if there was much scrub on Mount Cook. I asked him why.

"If there is anything like what there is on the hills about here we have a nice job before us. Kaufmann and I have tried to get through some near here, and we would not do a mile in a week." As I had Dr. Haast's book at my fingers' ends I explained to them

as well as I could the style of country we should have to travel through, and set their minds at rest on this point.

Melbourne had spoiled me for appreciating other colonial miracles or I should certainly have been more struck with the great city of Dunedin, with its splendid streets and terraced hills, bright with charming gardens and pretty villas, and then to think that forty years ago Dunedin did not exist! It is quite up to the mother country in some things, steam tramcars ply in the chief thoroughfares, and a car constructed like those on the Rigi Railway connects the lower town with the upper terraces. In the harbours extensive works are going on, and a dredger, the largest I believe ever constructed, has been procured for deepening the channel.

I met many of the kind inhabitants during my stay of a few hours. Among others I made the acquaintance of Mr. Hodgkins, a leading barrister, and a clever artist, from whom I got more information about Mount Cook and the adjoining district than I had yet obtained. I had got used to hearing people say that they knew Mount Cook "quite well," that they lived "at the foot of Mount Cook," meaning by that, anywhere within a radius of 100 miles from the mountain. On this account I was chary of taking advice. Mr. Hodgkins had, however, been really at the foot of the mountain; he had been on the Hooker glacier, and

with a pencil he quickly illustrated for me some points about which my mind was not quite clear.

One statement that had made an impression on me out of all the advice (?) I had got, was that the Hooker river would prove an insuperable difficulty in getting at the base of the mountain. Mr. Hodgkins could not clear up this point; he said, "Better not try it, but try to ascend from the Hooker glacier above the source of the Hooker river." Pondering over these things, I returned to our steamer at Port Chalmers, and that night we started, all three of us now together, for Port Lyttelton and Christchurch.

As we might in passing along the coast get a view of the Southern Alps if the weather were clear, I rose early on the 9th of February, and went up to the bridge; it was a charming summer morning, and as the *Te Anau* clove her way through the purple water, flocks of sea birds skimmed from beneath our bows over its glassy surface. Close over our port bow rose the hills of Banks' Peninsula, with its green valleys, snug coves, and picturesque volcanic rocks, the dark cliffs, green slopes, and sunlit sea forming a charming contrast. To the southward the low land lost itself in a pink haze, above and beyond which the serrated line of purple mountains, overtopped here and there by a glistening snow clad peak, was distinctly visible. We thought we distinguished Mount Cook. I took its bearings by the map in my hand, but

authorities differed on the question and we were content that any one of the higher peaks of the range which stretched north and south should bear the honour.

Kaufmann seemed satisfied at last that he had not been swindled into coming to the antipodes to swelter his life away in hot streets and a muggy atmosphere. He had never before descended even to the sea level, so I could well imagine his misery when coming through the Red Sea, and in Melbourne with the thermometer at 114° in the shade. He had so far been a fish out of water, or at all events a hound off the scent; now the game was in sight, the world seemed changed, and the clear, dry breeze off the Canterbury plains brought with it a genuine whiff of mountain air.

For a couple of hours we skimmed past the black cliffs of the Peninsula, and then the low land to the northward became apparent, the mountains of Marlborough province bounded the horizon and the snows were once more visible. Our long voyage was now at an end. Rounding a headland with a lighthouse on it, we entered the charming landlocked basin of Port Lyttelton and took up our berth near several fine clipper ships discharging cargoes of merchandise from Europe and America on to the wharf.

Port Lyttelton was intended by nature for a harbour, but it was cut off from the plains by a very steep mountain ridge; over this a road was constructed to

Christchurch, commanding lovely views over the great plains to the distant Alps, but quite unfit for the heavy traffic from the port. With a spirit of enterprise which spoke volumes for the infant colony a tunnel was bored in 1861-66 through 8,000 feet of the hard volcanic rock, and trains for all parts of the island can now take their freights direct from the vessels, or from the extensive sheds on the wharves.

As we had all our luggage ready for landing, no time was lost in transferring it to a shed, but before proceeding to Christchurch it had to pass the Custom House. This involved delay, and as I believed every hour was precious, I gave my keys to Boss and left him and Kaufmann to bring the baggage along when inspected and I took my seat in the train which was just starting for Christchurch. A few yards from the station we shot into the tunnel, and when we emerged into the light of day pretty gardens surrounded by large English trees, snug homesteads and fields green with European grass, met our view on every side, a delicious change after the sunburnt suburbs of Melbourne. It seemed like home, only brighter, and when, after half-an-hour's run we stepped on to the platform at Christchurch, I thought that were I free to choose my home in the world, notwithstanding the misfortunes which attended such a choice in the days gone by, I would select the "city of the plains."

CHAPTER VII.

"It is a land that freemen till,
That sober-suited Freedom chose.

Where faction seldom gathers head,
But by degrees to fulness wrought,
The strength of some diffusive thought
Hath time and space to work and spread."

TENNYSON.

Christchurch.—Preparations.—Journey up the country.—Lake
Tekapo.

AFTER driving to the White Hart Hotel and depositing my light baggage, my first anxiety was to get my letters at the post-office, as, since November 12th, I had not heard from home; these three months seemed years, and I trembled as four letters were handed to me, lest they should contain any bad news. I opened the last first, and breathed freely when I found that up to the last six weeks at all events everything had gone well. Then, hiring a cab, I drove to the Canterbury Museum to call on Dr. von Haast.

It is strange to meet a man for the first time whose

words you have pored over, and whom, through the medium of his writings, you seem already to know. His explorations in the Southern Alps, while constructing his great map, were all familiar to me. His cave-digging and moa-findings were the A B C of my late studies, and what could seem to follow more as a matter of course, or to have a more inherent fitness than that, on this our first meeting, we should find ourselves in a spacious hall on the floor of which, in the dim light shed from high Gothic windows, there should confront us a whole regiment of moas—moas tall and moas short, old birds and young chicks, some with stout limbs, some with slender ones—and that Doctor Haast himself should be the exhibitor? Leaving the moa skeletons we next inspected what was more intimately connected with my particular business—a collection of fine photographs of the Southern Alps, taken by Mr. Sealy, and which were no doubt a very great help to Dr. Haast in the construction of his map. This map has never been published in full size, but a small scale copy has been engraved by the Royal Geographical Society. I inspected the large map both before and after our expeditions on the Great Tasman glacier, and found it very accurate so far as my experience went. The tributary glaciers, and the glaciers on the western slopes, were probably not set down as truly as they will be when more minute surveys are undertaken; but when we consider the extent of ground covered by

this map, and the number of journeys which its construction necessitated, through what was at the time a completely unexplored region, we cannot but admire the production. I had found photography with small dry plates quite sufficiently troublesome to manage, and therefore felt all the more respect for Mr. Sealy, who was obliged to carry with him all the cumbrous paraphernalia of the wet plate process, and who brought home negatives, six inches by eight in size, from glaciers in districts widely separated, and most difficult of access. From these photographs, the negatives of which have unfortunately been destroyed, I made a more definite acquaintance with the range of Mount Cook. On one photograph taken from the centre of the Tasman glacier Dr. Haast pointed out to me the long southern arête of the mountain, which, so far as he knew, would afford a practicable route to the summit for a party equipped as we were. I must say I did not think its practicability was at all demonstrated by this view, and I asked what he thought about a route from the Hooker valley. He showed me next a photograph of that side of the mountain, and finally expressed his belief that our only chance of success would be by ascending from the Tasman glacier.

As I thought by this time that Boss and Kaufmann would have arrived from Port Lyttelton, I returned to the hotel, and finding them there we drove to Dr. Haast's house, as he had kindly invited us to do,

and though Kaufmann would no doubt have felt more at home amongst the *séracs* on Mount Cook than in a Christchurch drawing-room, we were glad to have another look at the photographs before starting for the mountains. It was now rather late, but we found time to make a few necessary purchases in the town.

Next morning early we drove to the railway station and took our seats in the 7 A.M. train for Timaru. Our ice axes and other gear caused no little excitement amongst the loiterers about the station, who seemed to think we were bound on some gold prospecting expedition with a most cumbersome "swag."

The morning was lovely, the bright sunshine and clear dry air most invigorating.

For some distance our line ran through pretty gardens in the cultivated suburbs of Christchurch; then trees ceased to be a feature in the landscape, and we entered upon the great bare portion of the Canterbury plains. The soil is light and gravelly, and though it has a most delightful drying effect on the atmosphere, is not suitable for cultivation. Great tracts are covered by the sparse brown native grasses, and are utilised merely for sheep runs.

Crossing the River Selwyn we reached the wide bed of the Rakaia which, like all the other rivers flowing from the hills through the Canterbury plains to the east coast, spreads itself out in countless streams over a broad area of gravel. The main channels are constantly shifting, making the difficulty of building bridges very

great; a new one had just been completed, nearly a mile in length, across the Rakaia, and on our return we crossed it in the train. In times gone by these rivers were a great hindrance to traffic. Travellers passing north and south were often delayed for a long time when the streams were swollen by the melting of the winter snow, and many lives were lost in crossing. The flat plains between these rivers were dreary wastes without milestones or landmarks to tell at what rate the journey was being accomplished. Wire fences dividing the sheep runs crossed the path at intervals, and must have made wandering from the road a serious matter, as the only gaps were on the direct route. Runholders discerned the danger of trusting to gates, which might be left open by some careless hand, as a means of keeping their sheep from straying or mixing with those of their neighbours; so instead of a gate, they placed a snug kennel at each gap, to which a dog was chained, and here he mounted guard day and night, his presence, waking or sleeping, was sufficient to prevent the sheep from venturing through.

We passed one of these dog-guarded gaps on our way up the country. A gentleman told me that before the railway was constructed he had often to ride along this route, and the only means of measuring distances was by the dogs and the telegraph posts. One would speak of meeting some one, or seeing something, at the fifth telegraph post after the third dog.

Now, however, we were running along in the express train at a fair pace, though it would be hardly called express speed in England, and we had ample time to enjoy the view of these great flats and brawling streams and the lovely purple mountain ranges, with an occasional snowy peak, which bounded our western horizon.

Both the engine and the carriages of our train were of American manufacture and on the American plan, it being possible to walk from end to end of the train. The open platforms between the cars were famous places to lounge and enjoy the cool breeze and the view. The first class cars were luxuriously fitted up, and every class was comfortable and provided with a supply of drinking-water and other conveniences. The refreshment rooms along the line were well managed tea, the great beverage, being ready at all hours and everywhere. The amount of tea drunk in the colony is amazing, it is the drink served out to the shearers when at work, and to the harvesters in the field; no meal is considered complete without it. It was most satisfactory to find that, practically, tea may take the place of and supplement to a great extent alcoholic drinks: so different from my last colonial experience, in the West Indies, where the gin cocktail destroys more lives than the yellow fever which has given such a bad name to our lovely possessions in the tropical sea.

When crossing the Ashburton river a fine glacier peak became visible, which at first we thought must be Mount Cook, but we afterwards decided that it must have been Mount Forbes. Still farther south we crossed the Rangitata, and coming once more into sight of the sea, we ran for some distance near a beach, on which a fine iron clipper ship had just been wrecked, and at 1 P.M. the train drew up at Timaru Station, and we transferred our baggage to the platform till the train started for Albury by a branch line. The train we had been in, after a short halt, went on its way south to Dunedin.

As we had a delay of over two hours in Timaru, I occupied the time in presenting a letter of introduction. Being led by my newly-found friend to the best store in the town, I purchased our stock of provisions for the mountains, and various articles which might prove of use in camp. As I was assured that we would find sheep on the very slopes of Mount Cook, I took but a small supply of meat in tins, and as none of us cared for spirituous liquors we saved weight in this direction too. Twenty-five pounds of flour, twelve pounds of oatmeal, and sixteen pounds of biscuits, formed the bulk of our stores. We purposed to take a sack of baker's bread from the last place where it could be procured; and for change of diet a dozen tins of sardines, some rice, cheese, and a few "luxuries" were added to our order. For drinkables we purchased five pounds of tea, some

chocolate and cream ready mixed, and we filled our flasks with brandy and whisky as a stand by in case of need. I already had in my luggage a few pots of Liebig's extract of meat, and a seven pound tin of mutton. As we would be far from any help in case of accident or illness, I packed in my knapsack a stock of lint, sticking-plaister, a pot of vaseline, and besides the usual "Cockles," chlorodine and quinine, I put up a small bottle of essence of camphor as a useful remedy in case of chills. Having seen all our supplies deposited in safety in the railway station, we compared my aneroid with the standard barometer in the post-office, and duly recorded the error of '3 too high.

It was now 3.30 P.M., so returning to the station we took our seats in the train for Albury. Our course was directly inland, and for the first few miles we passed through a well cultivated country, in which harvest operations were progressing favourably. Our pace was not very rapid, owing to the fact that we were ascending a gentle gradient. As there were no more than half a dozen people in the train, which was the last for the day, there was no particular reason for hurry. It was a lovely balmy afternoon, and nothing of fuss or excitement to detract from the pleasure of contemplating the peaceful scenes of farm life. As we approached Albury the line wound along in picturesque curves by the banks of a branch of the Opihi; high downs of ancient moraine,

covered with native tussock grass and a few straggling cabbage trees, confining its bed to a narrow valley.

On the train coming to a stand we discovered we had done our thirty miles and were at Albury, the present terminus of the line. We quite expected to find it a township with at least a few shops, but nothing of the kind was visible, the train merely stopped there because the line was finished no farther, and two hotels alone marked its existence amidst the rolling downs. To one of these hotels we now betook ourselves, and the fresh keen air of the hills had so revived me that now, for the first time since I left Melbourne, I felt I could attempt to eat anything like a meal. We were nearly 1,000 feet above the sea and the effect of the change was marvellous. After dinner we strolled to the top of a low hill which commanded a lovely view over the wide tracts covered with the brown New Zealand grass, here and there enlivened by a patch of green where some settlers had broken up a little paddock and sown English grasses. We stood on the top for some time enjoying the life-giving breeze, and having seen the sun set in glory over the western hills, we returned to the hotel feeling delightfully fresh after the first walk which I had enjoyed for a month.

Rising early next morning, our first business was to see the owner of the posting establishment near the inn, and engage horses for the rest of our journey. I had it on good authority that a buggy had once been driven

to near the great Tasman glacier, and as driving would be much the most expeditious manner of getting over the ground I determined to try it. The owner, however, objected to send any of his traps into the wild country near the glaciers, and my quotation about the buggy was met with the unfortunate rejoinder: "The buggy went there sure enough, but it never came back." Though a little shaken in my argument, I urged that "there was no reason why it should not have come back, the road was no worse one way than the other." But the proprietor was obdurate, so I said I must return to Timaru to buy horses and come up with them in the evening train. By this time Boss, who had been poking about the yard, came to me, saying there was an express waggon there now out of use, and it would be just the thing. Accordingly we renewed negotiations, and finally agreed that this old trap and three horses should be sent with us. The bargain was that we should travel in the waggon so far as the waggon could go, and when it could go no farther the horses were to be taken from under it, our goods packed on their backs, and taken by them as far as possible in the direction of the great Tasman glacier. The horses were then to return home and be sent again for us to where they left us on any day which we should name.

All these arrangements being completed before breakfast on February 9th, we said we should be ready to start at 11 A.M. Our party now consisted of

Boss, Kaufmann, Mr. B., a young Englishman who had come out to settle in New Zealand, the driver, and myself. As B. wished to accompany us and see Mount Cook, our agreement was, that, if at any time I saw that the difficulties were so great as to render his presence a source of inconvenience or danger to the party, I was to say so, and he would return to civilisation. He had knapsacked it through Norway, and had been on glaciers there, otherwise he had had no mountaineering experience.

Breakfast over, the waggon was brought to the door and we stowed into it our baggage, provisions, and a pack-saddle, the only one we could procure, and covered all over with an oilcloth, as a slight drizzle had set in. The horses not being ready, B. and I walked on.

Immediately beyond Albury a long wooden bridge has been constructed for the continuation of the railway over what was now the bed of an almost dry torrent. In the spring, however, a broad stream of snow water would have roared over the boulders. The road along which our journey lay was in splendid order, and while B. and I were amusing ourselves hunting some pukakies, or swamp hens, in a swamp close by, the waggon hove in sight, and taking our seats on the box we rattled along towards the township of Fairlie Creek at a brisk gallop. The railway embankments and bridges, in process of construction, were close to the road, and after passing out of the narrow gorge of the river into a

wider and more cultivated country, we reached Fairlie Creek. A post-office, a few dwelling-houses, a store in which all the necessaries of life are sold, a neat church and a school-house, occupying very detached positions on the roadside, are the primary elements of what will no doubt some day be a thriving rural town. We pulled up at the store, as this was, we were told, our last chance for laying in a supply of bread. Only a few loaves were exhibited for sale, which we had put into a sack, and the baker was interrogated as to when more would be ready. It was in the oven, I might come and see it for myself. I did so; it was still in the condition of white dough, so as we said we could not wait, the baker went round to some neighbours, who kindly gave us the loaves they had purchased for the day, and our bag being filled we bade them adieu and started on our way for Silverstream.

Cultivated farms were now on either side of the road, and here and there patches of vivid green on the hill-sides showed where the soil was gradually being reclaimed from its native state by the sowing of clover and grass. A strange fact concerning the clover is that red clover won't seed in New Zealand, owing to the absence of the humble-bee, which is the insect adapted by nature to fertilize its flowers. White clover, on the other hand, thrives amazingly, and in the last report of the Acclimatization Society I see that an invoice had been received from England of a consign-

ment of humble-bees which had been shipped to the colony. I hope they may arrive in good condition after their long voyage, and be ready to "improve each shining hour" in the meadows of Fairlie Creek.

These patches of green grass on the hill-sides are not pretty, the bright colour jarring unpleasantly on the eye accustomed to the rich yellow-brown of the tussock-grass. If in time green becomes the pervading colour, the landscape may be improved; it will at all events present a widely different aspect from what it does at present. One great advantage which farmers have in this colony over their friends of like occupation at home, is that in New Zealand the winters are so mild that the cattle need not be housed or hand-fed, so there is little necessity for growing green crops for a winter supply, and hay need not be saved.

Besides the useful seeds which have been imported from Europe a vast number of weeds have also found their way here, and thrive in an extraordinary manner. We passed clumps of tall thistles on the waste sides of the road, and sorrel has become a perfect plague to the farmer. Flocks of English sparrows twittered amongst the shrubs near the farms, and with other imported birds gave life to the scene.

At 2 P.M. we arrived at Silverstream, and halted at a neat little inn for dinner and to change horses. A capital meal was quickly served, the trout for which the locality is renowned being particularly excellent.

While engaged in discussing these delicacies a team of sixteen oxen arrived from the hills with an immense waggon laden with bales of wool. As the shearing was nearly over a number of young men who had been employed as shearers were travelling home after their season on the "runs," and having their pockets full of cash were eager for the earliest opportunity of spending it. We were invited to a "shout (treat) all round," and I fear we fell much in their estimation because we did not join their conviviality. I thought that a photograph of the team and shearing party would be an interesting memento of New Zealand life, so set up my camera, took careful aim, focused to a nicety amid much excitement, every one being anxious to be well in the front of the picture. "Steady now!" Off came the cap. "One, two, three," then on again with the cap, and with a professional smile I closed the slide. My satisfaction, however, was short-lived, for late that night on going to develop the photograph I found that there had been no plate in the camera.

The horses were soon ready and we made a fresh start, the road still being so flat and in such good order, that we were able to go at a good trot. We had now done nearly fifteen miles, about half our day's work, and our course after leaving Silverstream was almost due west, towards a great pile of mountains marked on the maps as the Two Thumbs range. We passed two comfortable-looking country houses inclosed in grounds

laid out with pretty trees, and when about five miles from Silverstream the road made a sudden angle to the southward, we commenced the incline leading up to Burke's Pass.

Cultivation now nearly ceased, and the typical brown grasses covered the rounded hills through which our road wound its way, following the head waters of the Opihi. The commonest bird in these regions was the New Zealand Harrier (*Circus gouldii*), one was nearly always in sight, skimming over the marshes near the river, or hovering high over our heads. Once or twice we came upon one of these fine creatures perched upon the body of a dead sheep. A lark like our own titlark was the only other member of the feathered tribes which we met with on the rolling sheep runs, upon which we were now entering.

This portion of Canterbury, including all the lands drained by the head waters of the Waitaiki, is called after a certain freebooter of the name of Mackenzie, a sort of Robin Hood in the short history of New Zealand. Before the country was taken up as it now is, he stationed himself behind the low ranges which form a circle round the Mackenzie Plains, and starting on marauding expeditions by the way of Burke's or Mackenzie's Pass, he stole sheep in all directions, and gradually accumulated large mobs, which he sold in other parts of the island.

Though the road was well engineered, and the

gradients were not severe, we were glad to spare the horses and walk up the hill. The township of Burke's Pass, like Fairlie Creek, had its hotel, church, school-house, and store; the last was however a charred heap of ruins when we arrived. A coach runs between it and Albury once or twice each week, and it is the postal centre for a wide but thinly populated district.

The road continuing to ascend we walked on clad in our waterproofs, as a Scotch mist had set in. We soon overtook and passed a long team of oxen dragging a ponderous empty waggon up the pass at the rate of about a quarter of a mile per hour. The tilt formed a capital house, and all the cooking utensils which hung on outside showed that the teamsters could make themselves at home on any part of the road, so that time to them was of little moment. Now came a steep gradient for a few hundred yards, the top of the pass, 2,500 feet, was reached, and the great Mackenzie plains spread themselves out before us. We quickly took our seats in the waggon and descended at a brisk gallop. The air was simply delightful. The elevation above the sea, the dry gravelly soil of these high plains, and the proximity of the ice peaks gave the breeze that invigorating never-to-be-forgotten Alpine feeling. The weather had cleared up, and it was now a lovely crystal-blue afternoon.

It seemed too that for the present we were done with civilisation. The great plains and rolling downs were essentially different from anything we had seen in

Europe, and above the lower ranges the ice-seamed peaks of the Alps bounded our southern and western horizon.

This vast area, now occupied by the Mackenzie plains, was once covered by the great glacier field of the Waitaiki. Afterwards it was filled by a lake, the ancient shores of which form the most complete series of terraces that has ever come under my observation. When at last the waters of the great lake broke through the dams of glacier deposits to the south eastward, the rivers ploughed deeply into its bed, shifting their channels now and again, and leaving abrupt escarpments of shingle to mark their courses. Now the whole surface is covered with a sparse vegetation, consisting of the various native tussock grasses, and interspersed with clumps of Spaniards or sword grass. On the plains this latter plant grows short and strong, and presents a most formidable array of spikes, which pierce your flesh like so many daggers should an unfortunate stumble cause you to fall upon a clump. Vegetation of any sort is so scanty that these plains can support but one or two sheep per acre.

We lost but little elevation after leaving Burke's pass, and again driving over rolling hills, the road following the upper level of an old lake terrace, we rounded a shoulder of the mountain which rose on our right and Lake Tekapo came into view. It was a charming scene, the blue waters of the lake glistening in the evening sunshine. High mountains rose on either hand,

and above the lower ranges at the further end the snow-clad peaks were visible. Far away on our left Mount Sefton was in sight, and though we were afterwards quite close to its foot, the view of this giant peak was more striking from this place than from any other spot in the low country from which we saw it. From this point of view it reminded us in form of the Dent Blanche when seen from the direction of Mont Blanc.

A tiny island near the shore of the lake had been chosen for a dwelling-place by a runholder in the vicinity, and his little house peeped out from the midst of a clump of pine trees, with which the islet had been planted.

As we drove along the great bank of moraine, which forms the dam keeping back the waters of the lake, a most artistically finished suspension bridge, supported by concrete piers, came in sight, and completely dashed Boss's hope that we were at last rid of civilisation. However, it afforded us a ready passage over the swift Tekapo whose bluish snow water swirled along below us as we crossed, and halted at the comfortable hotel on the farther shore. A neat bed-room was allotted to each of our party, and the sitting-room commanded a pretty view over the lake. The landlord, an Irishman, told us of the difficulties which he had encountered in grubbing boulders out of the ground to make a garden, but he was well repaid for his efforts as a goodly

supply of vegetables was always ready for his guests. While supper was preparing I got out my sketch-book, and Boss, Kaufmann, and B., whose sporting proclivities were excited by seeing a small flock of wild ducks near the margin of the lake, put the gun together, and we strolled through the scrub consisting chiefly of "Wild Irishman" (*Discaria tomatou*). The ducks were more wide-awake than we gave them credit for, and speedily put themselves at a safe distance from our guns.

I took my seat on a high boulder, and sketched the scene. The air was quite calm, the waters of the lake stretched away to the westward for twelve miles, and were of a deep steel blue in the evening gloom. The high mountains to the northward shone with the rosy sunset light, and the ice-clad peaks to the westward were sharply cut against the golden sky, showing lovely complementary tints on their snows. The headlands projecting into the lake marked the distances with most picturesque effect; the absence of forest from the landscape was alone to be regretted.

While silently enjoying this lovely peaceful scene, the bang of the gun recalled my attention to things near at hand, and looking in the direction of my companions I saw Kaufmann throwing stones and plunging through the scrub in an excited manner. Wondering what was up, I joined the chase, and found that they had caught sight of a weka or wood hen, whose quaint appearance

created the excitement. It darted in and out amongst the scrub and boulders on the shore of the lake, and, giving them no fair chance of a shot, made its escape. These large rails were a source of constant amusement to us from this stage forwards ; they were to be found in every patch of scrub, and, wherever we halted in their vicinity, they would come peeping at us with a most ludicrous inquisitiveness, showing no symptoms of fear, and ready to steal any small object which seemed attractive to them.

After supper we gazed once more on the lake with the stars twinkling like diamonds in its calm depths, and then retired to rest for the night.

CHAPTER VIII.

"No habitation can be seen ; but they
Who journey thither find themselves alone
With a few sheep, with rocks and stones, and kites
That overhead are sailing in the sky ;
It is in truth an utter solitude."

WORDSWORTH.

The Mackenzie Plains.—Mount Cook sheep station.—Fording the
Tasman.

WE were up betimes, and as soon as breakfast was disposed of the horses were put to, and writing our names in the "visitors' book," we resumed our journey at 8 A.M. As our driver was unacquainted with the route beyond Tekapo he made some inquiries, and was told that at a certain point the track would seem to lead straight on, but that we were to turn off to the right. From the map which I had I knew our general direction, so we foresaw no difficulty about finding our way. Following the bullock track for some distance we left the Balmoral sheep station on our left, and fording the stream coming from Lake Alexandrina, we drove over rolling downs of much the same character as yesterday ; then, coming to a fork in the

track, we turned to the right as the main line led on to Braemar, a sheep station in the Tasman Valley, lower down than where we wished to strike it. Soon our track was lost among the downs, and we had to spread out and pioneer the way, the waggon following in the line we indicated. When the highest ridge of the downs over which we travelled was reached, we overlooked the broad valley of the Tasman, lying several hundred feet below us, its wide waste of gravel laced by innumerable streams, bounded by the parallel ranges of grand Alpine heights, with Mount Cook towering over all, blocking up the vista to the right with his pyramid of rock and ice, and forming one of the grandest scenes of the southern hemisphere.

It is not easy to describe the feelings we experienced at this our first view of the glorious scene: The tedium of the weary 12,000 miles of ocean over which we had travelled, the anxiety of quarantine and all other trying circumstances involved in a long absence from home, seemed atoned for in that one instant: no difficulties which lay in our path ahead were thought of, except as so much pleasure in store, so elated were we at the prospect of our goal now apparently within easy reach. Boss was just giving expression to his feelings about being quit of everything connected with civilisation when suddenly, to our great embarrassment, we came upon a wire fence crossing our track and extending as far as eye could see on either hand. Here was

a dilemma. Which direction should we take to find a way through? To follow it to the left seemed the safest, though it involved making an acute angle back in the direction of our former route. To the right the downs were rising higher and higher above the valley, and if we went in this direction it might be impossible for the waggon to descend. Accordingly, directing Kaufmann to go with the waggon, as the driver could not well manage alone, Boss, B., and I, leaped over the fence and struck down the steep hill-sides towards the river bed, stopping every now and then to spy through a binocular and see how the waggon was getting along. They had to go back a long way, but on reaching the flats were able to come along at a gallop, so that we were not down much before they arrived and picked us up. Here in some places the track was fairly defined, but as it was only made by the bullock waggons in their annual visits to fetch the wool of the two stations at the head of the valley, it was not a road in any sense of the word, and the ruts were so deep in boggy places that to avoid the exact track and still adhere to its general direction was our main anxiety. Diverging from the hill-sides on the rich pastures near which numerous herds of cattle belonging to Braemar station grazed, we journeyed up the valley, gradually approaching the bare gravel of the river's

“Naked shore,

Wide flats, where nothing but coarse grasses grew.”

We had been warned about the quicksands, which are of frequent occurrence in this vicinity, so we went cautiously, now and then mounting upon the waggon in order to ford the river channels, at other times following or going ahead of it on foot. The main streams were over towards the farther shore, and all along their course whirlwinds made themselves apparent by the clouds of sand which they carried upwards, in form like waterspouts, to a height of a hundred feet. The heat of the sun was intense as we journeyed up the valley, which, combined with the cold of the glacier streams, upset the equilibrium of the atmosphere near the surface, and probably gave rise to these whirling motions. I tried to photograph some of these little sand waterspouts, if I may so call them, but being unable to get near enough to them they made no visible impression on the plate.

On the opposite side of the valley, at about a level of 500 or 600 feet above the present level of the river bed, a series of terraces extended for many miles along the mountain side. These terrace formations are so characteristic of New Zealand scenery that they form the most conspicuous physical peculiarity in almost every landscape, and come up before my mind's eye whenever I recall New Zealand scenes. They owe their existence to two causes—changes of level, brought about by upheavals and depressions of the entire land area, alternating with periods of rest, which would account

for the phenomena in the river valleys by the consequent increase or decrease in the rapidity and eroding capabilities of the torrents. The second cause, which is connected with the first, was the undoubted existence of large lakes at the close of the great glacier period, when water filled wide areas that had been previously covered by the ice, and formed the terraced margins which remain to the present day.

The terraces on the south-west side of the Tasman were possibly the margin of a lake of which the valley was but an inlet and of which the present Lake Pukaki, into which the Tasman pours its waters, is the remnant; or they may have been the shores of a lakelet which the glacier formed by the union of the Hooker and Tasman glaciers bore upon its shoulders, reminding one of the Merjelen Sea in Switzerland. It is also possible that these terraces may have been created by the direct action of the glacier, and are more of the nature of lateral moraine accumulations than anything else. Looking at them, as we afterwards did, from the slopes of Mount Cook, they suggested this latter origin as the more probable one. We were not a little surprised at finding that these great wastes of gravel were the chosen breeding places of numerous seagulls. Large gulls, exactly similar to the herring gull of our shores, hovered screaming about our track, and some of the young birds in their coats of grey down ran along before us, flapping their wings in a vain attempt to fly.

The difficulties of the road, however, absorbed most of our attention, as our track was constantly crossed by water courses, to pass which we had to select the lowest part of the steep gravelly bank down which the waggon could bump with the least possible concussion, and then cross over and struggle up the other side as best we could. The ruts, too, were sometimes three feet deep, and a yoke of three horses proved to be the most unsuitable for avoiding them, as the leader in trying to avoid the rut often pulled one of the other horses or the wheels of the waggon into it. Several times we urged our driver to abandon the track altogether, as a course quite independent of it seemed fraught with less danger; but he would not heed our counsel, until suddenly, as we were going over a fine level tract at a smart trot with our whole party mounted on the waggon, down the wheels went crash, and we were all tumbled off into a swamp. We quickly picked ourselves up, but the position of the waggon was critical—buried to the axles at one side, the other side high in the air. The spokes of the lower hind wheel were started from their sockets, and though previously we had been congratulating ourselves on the general shakiness of the whole concern being admirably adapted to the roughness of the road, we feared now that the pliant looseness of our trap had passed the extreme point of cohesion and that the wheels were done for. To unload would have caused great delay ;

so putting our shoulders under the load and giving a "Yo, heave oh!" the Jehu at the same time urging his team to super-equine exertions, the wheels at last rose to the surface, not, however, without many an ominous creak and groan. The spokes returned to their places and we continued our journey, avoiding the treacherous bullock track, as indeed we ought to have done from the first.

We did not mount again till we came to the deepest streams of the Jollie river, which flowed from the mountains to our right, and on gaining its further shore we found ourselves at Mount Cook sheep station. It was now 2 P.M., and as we hoped here to find some one who would pilot us over the Tasman river I presented a letter of introduction to Mr. Burnett, the proprietor. While his good lady provided B. and me with a substantial meal, and the rest of our party regaled themselves at the waggon, he went to fetch one of his shepherds who was well acquainted with the fords and quicksands of the great network of streams which lay between us and Birch Hill on the further shore. Mount Cook station consists of a long, low, thatched cottage, in which the family reside during the summer when sheep-shearing is the great work of life, returning to their permanent home in Timaru before the winter snows set in, and thus spending their summer in as health-giving and enjoyable a manner as it is possible to imagine. While breathing the clear air of the

glaciers, listening to the murmur of the mountain streams, rambling over the hill-sides with some of nature's grandest scenery continually before their eyes, they have the feeling that they are no idlers, their business calls them there.

The grandest scenes become tame, or at all events lose much of their thrilling interest when the eyes and the mind have nothing else to contemplate from year's end to year's end, but the life of the New Zealand run-holder has all the charming interest begotten by change of scene; and the season among the mountains is looked forward to by every member of the family with more genuine delight than the keenest deer-stalker has ever experienced, when, waiting and longing for the season to begin, he lounges in the luxury of his London club. I have not woven this picture of pastoral bliss out of my imagination; our good hostess was full to overflowing with the happiness of her life—and while discussing all sorts of plans for our comfort, and descanting on the hygienic properties of the air and the sunshine, the time went quickly by, till Mr. Burnett came to tell us that all was ready to start.

Mrs. Burnett's last thought was to make up a roll of butter in a cabbage leaf for my special use, as it was too hard, she said, that I should have to do without such luxuries on the long, weary expedition before us; and cramming our pockets with hot scones just out of the oven, she bid us God speed. Following Mr. Burnett

through the little garden, thickly planted with gooseberry trees and squares of useful vegetables, we rejoined the rest of our party. It was now three o'clock, and our driver was reluctant to proceed. All day he had perceptibly been losing heart, he had never penetrated these outlandish wastes before; the precipices of Mount Cook, now towering up in glistening splendour, seemed to awe him, and it is needless to say that he shared the belief with all others whom we met, that we might as well try to climb to the moon as to scale the mountain. It did certainly look very imposing from this point of view, rising abruptly for 10,000 feet above the river valley; and the difficulty of our undertaking was impressing itself on all our minds, as was now and then very apparent from the peculiar wistful expression on Kaufmann's face whenever he looked up at the great peak. We did not want the man to *drive* up Mount Cook, so there was no excuse for him, as the horses were not tired, the load being very light, and the pace for the greater part of the way had been a walk. However, he was just about to get married, and under such circumstances, one must not criticise too severely any apparent lack of nerve. Mr. Burnett having told me that there was no reason why the waggon should not cross the river as our wheels were high; and as his shepherd was ready mounted on a plucky little cob, I gave the order to start. It now turned out that one of our horses had a galled shoulder and must be left behind, this was most unfortunate,

as we expected to have full horse power for the morrow's work.

The paddocks beyond the station were very level, and proved the smoothest part of our whole route, so we mounted the waggon and for about a mile drove at a gallop. The shepherd riding on in front, flushed every now and then a flock of paradise ducks. On reaching the shingle of the river, we had to go on foot, only getting into the waggon when a river channel of ice-cold water, deeper than usual, had to be crossed. After fording about a dozen such streams we reached the larger channels; here our pilot rode up and down, testing the fords, as the river alters its course so rapidly, that what is a practicable ford one week, may be a deep swirling pool the next.

When he had crossed and recrossed a few times he signalled us to come along. Mounting on the load, we bumped down a steep bank of shingle into the largest stream. All went well till we reached mid-channel, then the horses got frightened, and plunging violently, broke one of the splinter bars. The slatey-blue glacier water surged and gurgled over the wheels; we were rapidly settling down; if the torrent once reached the body of the waggon, it would be all up with us. There was no time to lose, so bending on our tent-rope to the fore carriage, we ran along the pole, which was already under water, and leaped into the river. The driver had in the meantime hooked on the loose traces, and by dint of

hauling the rope we got the waggon into shallow water and spliced the broken harness.

A few miles above where we crossed, the valley forked, and the terminal morain of the great Tasman glacier was now distinctly visible, blocking up the valley to the right, while the great piles of *débris* brought down by the Mueller and Hooker glaciers filled the branch to the left.

Right in the middle of the picture, between these two branch valleys, the Mount Cook range rose pile upon pile, its glittering peak crowning all, and reminding us not a little of the Dom as first seen when approaching it from the Rhone valley. The Zermatt valley is however very unlike the bed of the Tasman: the ravine-shaped glens of Switzerland are not to be found, so far as my experience goes, in the Southern Alps. This Tasman valley, as I have said before, is an immense flat from which the mountains rise as abruptly as from the shore of a lake, and all the other valleys we saw in the range were similar in this respect.

The reason why these valleys should be so flat, is, I think, not far to seek. In Switzerland the glacier sources of the rivers are several thousands of feet higher above the sea level than they are in New Zealand, hence the rivers having a greater depth to fall before they gain the lower plains, have a greater eroding power. The terminal face of the great Tasman glacier is only 2,400 feet above the sea level, and its river instead of plunging down steep

mountain sides, descends to the sea by a fairly uniform incline of about twenty-five feet to the mile. The Gastern Thal in Switzerland, owing to the retardation of its stream by the narrowness of its outlet near Kandersteg, presents on a small scale a very similar aspect to these New Zealand valleys.

All day the heat had been intense, the sunshine being clear and bright in our valley and in its eastern branch, while the Hooker valley was choked with dense inky clouds. Heavy showers of rain showed like shafts of grey light against this dark background, a swirling wreath of vapour wound now and then round Mount Cook, and vanishing again left the peak quite clear. One valley was all storm, the other all sunshine, and it seemed as if two opposing forces were striving for the mastery on the high arête of Ao-Rangi.

The spirit of the storm at last proved himself the stronger—Mount Cook was enveloped in clouds. The sun was hidden from us, and as we resumed our journey across the shingle flats after our mishap in the river, the icy blasts from the glaciers made us shiver in our wet clothes.

A storm was evidently brewing, so, regardless of dry clothes which were now out of the question, we splashed through the remaining river channels as rapidly as possible. Big drops of rain began to fall, and just as we reached the last stream the sun set. As our pilot was anxious to get back over the worst part of the river

before dark, he pointed out to us the wool-shed of Birch Hill Station, which we could just see on the dark hill side, and taking his leave, put spurs to his horse. For half an hour or so we could see him careering over the shingle flats, till he became a tiny speck, and then vanished in the gloom.

We soon reached the wool-shed, built altogether of galvanised iron. A horse, a few straggling sheep, and a colley pup barking at us through the chinks of the shed were, however, the only signs of life.

To get out of our wet clothes and into shelter from the coming storm were the ideas most prominent in our minds, so while the horses were being unharnessed, we divested ourselves of our wet things, and felt much warmer when re-clad and dry. While completing this operation two horsemen hove in sight; we concluded that they must be the shepherds of Birch Hill, and were not a little surprised on finding that they were travellers like ourselves, who had ridden up from Timaru to see the glaciers. They had taken a more circuitous route to avoid the difficulties of the Tasman, and had calculated on finding shelter at Birch Hill.

As the storm was gathering fast there was no time to spare, so removing all that we required for the night into a wool-shed we were preparing to settle ourselves for supper when another horseman appeared on the scene. He was a fine specimen of a young Scotchman, about twenty years of age, well mounted,

and from our experience of his kindness and pluck—which we had soon good cause to appreciate—we shall not easily forget this our first meeting with George Southerland, the shepherd in charge of Birch Hill.

He was rather embarrassed at finding such a large party seeking the shelter of his station, but quickly solved the difficulty by inviting us all up to his cottage for tea. In the darkness we had not recognised the fact that there was a cottage, so putting our blankets into the shed we followed him up and were soon sitting round a blazing wood fire, while he busied himself in making a good brew of tea and setting all the provisions he had at our disposal. He said he had two beds to offer, which we could divide amongst our party of seven as we thought fit, and the others were welcome to sleep before the fire.

As I thought that the sooner we were rid of such luxuries the better, I said that the two gentlemen from Timaru might have the beds, but that I and my party would retire to the shed for the night.

I was desirous too of getting off in the morning as quickly as possible in expectation of many delays; for it would be very inconvenient if we could not reach our camping ground at the foot of the Tasman glacier early in the day.

Southerland promised to kill a sheep for us in the morning and follow us with it on his horse, his two

guests also kindly offered to help us with their horses when the waggon could go no further.

It was raining in torrents when we left the cottage, but we wrapped ourselves up in our waterproofs, and with a parting warning from our host not to set fire to the wool-shed, quickly betook ourselves to its shelter. Lighting a candle, we distributed the blankets amongst our party. B. and I drew ourselves into sleeping bags which we placed close up to the roof on the top of the wool bales, while the others selected what they considered to be the snugest corners and lay on our cork mattresses.

The corrugated iron roof was quite impervious to the rain, but the eaves did not come within six inches of the walls all round, so there was no lack of ventilation, and as the storm was now at its height we were very glad to cover up our heads and try to sleep. The roar of the rain and hail on the iron roof and walls almost drowned the crashing of the thunder, and every now and then flashes of lightning lit up our strange quarters with a weird blue glare.

The amount of sleep we enjoyed was not worthy of special comment, but so far as my experience goes one never does sleep well on the first night of such an expedition, so getting through it any way was to my mind a great satisfaction.

I must say that it was rather rough on our driver, and he did not hesitate to explain to us with much

eloquence that it was his first night out of bed in his life, and he would take very good care it should be his last. It was not his last, however, as the event proved.

At the very first streak of dawn we were astir, and not waiting for breakfast we just ate a few mouthfuls of bread, put the horses to as quickly as possible, and started on our journey towards the Tasman glacier.

Though drops of rain still fell and a few wreaths of golden mists wound round the mountain peaks glowing in the brightness of the sun, it was evidently clearing up into a glorious day.

Our feelings that morning are not easy to describe. We had turned our backs on the last human habitation, soon we should be alone with those grand snowy peaks. Each lovely mountain seemed to possess a character of its own, and we could not cease from discussing their various peculiarities as if they were beings endowed with life. The secret of their attractiveness lay no doubt in their spotless purity, and the blush of the sunrise seemed at this hour to intensify their power and called forth feelings of admiration. Oftentimes in Switzerland I have seen the glories of the sunrise, one morning in particular often comes before my mind's eye, when we were leaving Zermatt for the Adler Pass. There the rosy glow of morning lit up the Matterhorn and the neighbouring peaks with wondrous light—those peaks which had been gazed on for ages upon

ages by men who were sensibly impressed with their power! But here in New Zealand a few years ago there was no human eye to behold their glories. The few Maories who migrated to the south island no doubt called Mount Cook the "Heaven piercer" or "Heaven world," as the word Ao-Rangi has been variously translated, but if any of his grand companions were counted worthy of a name the fact has not been recorded. The Maori occupation was but a short one at best, and our mind goes back to the ages when these scenes were uncared for and unknown. Then the sun shone as brightly as it did this morning. Then the glacier streams trickled down the blue crevasse with the same tinkling music. Then the same soft haze bathed the great broad valley before us. Then these lovely virgin peaks rendered up their beauty as a tribute to their Creator, and to Him alone.

CHAPTER IX.

“ Dank osiers fringed the swamp and hill ;
And oft both path and hill were torn,
Where wintry torrents down had borne,
And heap'd upon the cumber'd land
Its wreck of gravel, rocks, and sand.”

SCOTT.

Birch Hill.—Across the Hooker.—Our first camp.—Wekas.—
Paradise ducks.

ON leaving the inclosure of the sheep station our route lay through a swamp, traversed by numerous deep streams of clear water which, emerging from a sedgelake close under the mountain side, found their way amidst high tussocks of coarse grass to the main river. Flocks of paradise ducks cackled in the lakelet, and as the waggon bumped along through the streams and as we leaped from tussock to tussock in its wake, numerous swamp hens or pukakis were startled to the wing and with their long red legs hanging in the air fluttered to what they believed to be a safe distance. But their ideas of distance were slightly erroneous, for I shot one of them as he stood looking at us with a defiant air

at about twenty yards. He was a pretty bird somewhat like a large waterhen in holiday attire, his bright red legs and beak contrasting well with the deep rich purple of his plumage. He proved, however, but poor eating, there being but little flesh on his carcase, and the fat adhered so tenaciously to our pot that, had we wished to do so, we were unable to forget our friend of the gay plumage for many days. We abstained from shooting the ducks as the close season was not yet quite over, and the little birds like godwits which flitted about our track with plaintive whistlings were not worth firing at.

Passing this swamp and diverging from the mountain side, on which we could see numerous sheep grazing, we entered once more on the great shingle flats. For about three miles we found the travelling as good as could be wished, far better than it had been coming up the valley the day before, but as we opened the Hooker Valley and came upon dry channels of the spring torrents, the boulders became too large and numerous for the springs and wheels of our waggon, so we waited at the margin of a stream feeling that we had reached the farthest limit to which a wheeled vehicle could go. It would now be necessary to pack the horses. Before proceeding to this business we collected some twigs from the scrubby bushes which grew in low clumps amongst the boulders, and lighting a fire, set our kettle going and were soon enjoying

a good breakfast for which by this time we were ravenously hungry.

The weather was perfect, Mount Sefton on our left looked superb—his great arête dazzling in the sunshine and the glaciers which seamed his sides sending down avalanches every now and again, with a rumble like distant thunder. When our coachman first heard these deep voices of the mountain he insisted that it was thunder, and was more than sceptical, when we told him that these rumbling noises were caused by falling ice, though there was no cloud visible from which thunder could have proceeded. Another and more continuous sound which rose and fell with a kind of cadence on the breeze also struck upon our ears as we sat at breakfast. It was the roar of the torrent from the Hooker and Mueller glaciers, which, though it crossed our track about a mile from where we rested, was already distinctly audible. We had been told much about the roughness of the bed and dangerous swiftness of the Hooker River; it was the anxiety at present occupying the foremost place in our minds. From the top of the waggon we scanned the great boulder wastes to try and catch a first glimpse of its roaring waters, but the whole valley danced and quivered with such strange mirage effects, silvery streams appearing where we knew no streams existed; and boulders piling themselves up and hanging now and then apparently in mid-air all melting and

reforming in the blazing sunshine, that to detect any distant object through the lower levels of the atmosphere was altogether impossible.

Aloft however all was clear and sharply cut against an azure sky, but we had no time to waste in fanciful wanderings up those walls of glistening ice. To pack the horses was work enough for the present moment.

We had brought only one pack-saddle, but quickly extemporised another out of one of our canvas hammocks. Laying the hammock across the horse's back and then placing the packs on either side we turned up the ends of the hammock and fastened them over the top—a stout strap kept all secure. Southerland and his guests now arrived; he carried the carcase of a sheep across his saddle and the other gentlemen dismounting placed their horses at our disposal; as I had all the luggage made up in long narrow canvas bags which were easily stowed, we were not long in placing light loads on our friends' horses, and not wishing to load them too heavily, we reserved handy packs which we carried *d la chaise à porteur* on the tent poles.

Taking a look around, lest anything should be forgotten, we bade adieu to the waggon and started in Indian file, Southerland taking the lead. The Hooker river, whose roar was now becoming louder and louder, on issuing from the valley of the same name in one large stream close under the high spur of Mount Cook, continues its course across the larger valley till it

meets the Tasman, which has here been pushed over to the farther margin of its bed by the great fans of gravel which have been swept down by the summer floods from Mount Sefton and the Ben Ohau ranges. We had skirted these shingle heaps, and had diverged far from what would have been the straight line of our journey, with a view to striking the Hooker in a more level part of its course. After a long tramp over the rounded water-worn boulders, and after fording a number of smaller streams, we at length reached the first branch of the Hooker. The horsemen mounting behind the packs crossed without difficulty while, to save time, the rest of us, divested of our lower garments, waded through the cold glacier water in their company. Then came a shingle flat, across which we ran to restore circulation to our extremities; the boulders were almost as intensely hot as the river was cold, and so we reached the next stream, which proved to be the main channel.

The torrent roared and gurgled around the boulders in swirling eddies, and the clinking of large stones hurried along its bed as they pounded themselves together, was distinctly audible. Southerland deemed it impossible for us to cross except on horseback, so we quickly restored to our limbs their wonted covering as, between the cold of the water, the dry keenness of the breeze, and the scorching sunshine, there was no little danger of our loosing much valuable cuticle if we

continued longer than necessary in our picturesque undress.

The packs on the horses' backs were too heavy, and hung too low for the ticklish passage. So, notwithstanding the serious loss of time it involved, we had to unpack and rearrange the loads so that each animal would carry only half the amount of baggage; and as two horses had to be reserved for the men who should lead the pack horses across, nearly two hours had elapsed before the passage of the Hooker was accomplished.

Southerland of course led the way, and with great anxiety we watched each horse as he felt the first burst of the torrent. Our pilot, having crossed and recrossed till both he and his horse were nearly dead beat, now brought one across for me, which I mounted, and, following his lead, entered the stream. At first we kept away down with the current, till we reached mid channel; the horse could with difficulty keep his legs, and I got a good splashing in his attempts to save himself from a fatal stumble. On reaching a shallow in mid stream we altered our direction, and heading up against the swift current, gained the further shore. There had been a great deal of shouting and laughter at our friends as they swayed to and fro, or clutched convulsively to the horses' necks; but when my turn came, though I had had the advantage of witnessing the experiences of the others, I felt but little inclined to laugh. To go adrift meant nothing less than to be pounded into a jelly amongst the rocks

through which the river roared about twenty yards below. As our difficulties were now over, Southerland pointed out to us a patch of scrub about two miles ahead, which he told us would probably be the best place for our camp, and taking his leave recrossed the Hooker for about the twentieth time, and galloped away towards Birch Hill.

Having passed the mouth of the Hooker valley, with its devastating torrents, we quickly reached the flats under the great southern spur of Mount Cook, which, having lain undisturbed by glacier torrents for centuries, were covered with rank herbage. Many pretty marsh flowers peeped through the tussock grass, and clumps of wild Irishman became more frequent as we drew near to the steep hill-sides. This mountain spur was but a short time since covered with a fine forest growth, which through some carelessness had been destroyed by fire, and the gaunt leafless branches and charred trunks of the birch trees, standing up out of a dense undergrowth of ferns, were all that now remained to tell of the former luxuriant vegetation. Further along the spur patches of scrub and forest still existed, and the more exposed portion of the mountain side was adorned with splendid clumps of *Phormium tenax* (the New Zealand flax). It was no little relief to our feet and eyes to have done with those great glaring wastes of shingle, while the whistlings and twitterings of strange birds lent another fresh charm to the scene.

As those first ready after crossing the Hooker had gone on ahead, our party had now straggled out into a long line, and as Kaufmann and I carried the canteen and gun case full of cartridges slung on the tent poles, and B. had another heavy load, we got so far in the rear that our advance guard was out of sight; however, as my marching orders were to advance so far as the horses could go, I had no particular anxiety beyond stumbling over the tussocks as rapidly as possible.

On reaching the patch of scrub indicated by Southerland I saw at a glance that it would be a suitable place for a camp; good shelter and firing being afforded by the bushes, and there was a stream flowing close by. We could have gone on for two miles farther, but in order to do so we should have again diverged from the hill-side, and traversed a great grassy flat without any certainty of a camping place beyond, and as we did not know when another storm might burst upon us I considered shelter against such a contingency a matter of great importance.

By the time we had come up the horses had crossed the stream, but were quickly recalled. They were very tired, and while we were discussing the situation the horse on whose back we had packed the flour, tea, sugar, and my extra clothes, took the opportunity of our attention being off to lie down in the deepest part of the stream and enjoy a delicious roll.

Could anything have been more utterly horrible !

The tins in which the provisions had been inclosed were crushed and burst. The sugar streamed away for the gratification of paradise ducks, which perhaps we should never have the luck to shoot. My clothes and a couple of blankets all gone to the wash with a vengeance, when dry clothes were of prime importance ! There was no use being angry with the poor horse, who would have enjoyed his roll much more if the pack had been safe on the bank. To get the wet pack opened out and exposed to the bright sunshine was imperative.

This incident settled the question of our camping ground, and unloading the other horses we set to work undoing the wet pack. It was now 2.30 P.M., so there was no time to lose, as, long before his actual setting the sun would have gone from our valley.

The flour was not much damaged, as the water was found to have penetrated only a short distance, but the sugar was all gone, and the tea perfectly saturated ; however, as the water was not hot we hoped that this partial infusion would not detract much from its quality, and spreading it out thinly upon a waterproof sheet it was soon steaming away. Our Alpine rope was now stretched between the bare stems of some burnt scrub and the clothes hung up to dry in the most orthodox style. Our next thought was dinner, and this being disposed of we set to work to open our packs and

see we had everything that was required before we cut our last link with civilisation and sent the horses back.

Our inspection unfortunately showed that our "look round" before starting had been imperfect, for we now discovered that the tin containing methylated spirits had been forgotten on the ground near the waggon. We did not wish to lose it as there was a possibility of our having to penetrate beyond the limits of vegetation, and our little cuisine would be useless without it. One of the Timaru gentlemen having accepted our offer of lodging for the night, Boss volunteered to take his horse, ride back over the Hooker with the rest of the return party, and fetch up the missing tin. He said he would be sure not to miss the ford on the way back. I let him go, and as it was important he should have daylight to return we started them off at once. The poor horses seemed much refreshed by their rest and, so far as we could follow them with our eyes, they went along at a gallop. Our guest now started to see what he could of the Tasman glacier, and I set to work with Kaufmann and B. to pitch our camp. Avoiding the damp mould upon which the grass grew, we cut away some bushes, and well within their shelter on a patch of dry stones we pitched our small duck tent, and, pegging it down, pitched the larger tent on the top of it. A stratum of air was thus inclosed between the double walls, which we calculated would add not a little to the snugness and dryness of

our quarters. Close to the large tent we pitched our small Alpine tent to hold the stores, and placed within it all our extra clothes and provisions. Though the large tent was but six feet high the two hammocks hung conveniently over one another, and left plenty of room for the two cork mattresses on the ground; to add to the comfort of these ground beds Kaufmann cut a quantity of the long dry grass, and placed it under the mattresses. Strong guy ropes were then made fast to the bushes around, to prevent our encampment being shaken by a storm, and a curtain of mosquito netting to keep out the flies made our home as comfortable as circumstances would permit. We were not so much teased by mosquitos and sand flies as we had been led to expect we would be, but the large blow flies, like overgrown blue-bottles, were a great nuisance; pitching in any article of clothing, blankets being their special weakness, which might be left on the ground, and immediately depositing in it their eggs.

I had received the hint from an old colonist that they never affect objects hanging up, or at any distance from the ground, so we took advantage of this peculiarity and by a little attention dodged them most successfully; the hammocks being quite safe. Our mutton, however, was a difficulty; to save it we extemporised a meat safe by hanging a canvas kit-bag under the shade of the scrub with a small bit of musquito net over the

mouth for the sake of ventilation. It did its work fairly well, though it was difficult to prevent one out of the legion of flies which buzzed eagerly around from occasionally eluding our vigilance. When grubbing up the larger stones within our tent so as to make the floor as level as possible, we discovered living beneath them the most hideous creature it has ever fallen to my lot to behold. With a body of a greenish hue, and immense legs like a grasshopper, it was more like a gigantic flea than anything else I can think of.¹ Its body was about the size of my thumb, and from its sluggishness in daylight I concluded that night was its time for action, and it was not encouraging to think of the gambols these creatures would have over us while we were asleep. However, as the absence of noxious animals in New Zealand is proverbial, I thought little about it, and beauty and ugliness are after all but relative terms. During all the time we were occupied in making these arrangements wekas stood at the edge of the scrub watching us with the most comical inquisitiveness; now and then one more daring than his neighbours would run forward and peer into the last pack we opened, wondering if there was anything worth stealing; once we saw one of them making off with a square of soap, another time with a match box, and Kaufmann spent quite half his time pursuing them with stones. They dodged

¹ *Dinocerida heteracantha*.

about so rapidly through the scrub, that it was difficult to hit them, and if we succeeded it seemed to do them but little harm, their bodies were so light and so well protected by their long loose feathers.

When we did kill one we found it too oily to cook, but a dead one came in most conveniently now and then for greasing our boots. It was a pity to kill birds which were so friendly, interesting, and quaint withal, but it was necessary to impress them with due respect for our camp, otherwise we should have had nothing left. It was now getting time for supper, so while Kaufmann built a fireplace of stones I dragged along firewood from the dry torrent bed, and B. excavated a water-hole for our morning bath about fifty yards from our tent, where a rivulet came down the hill-side. The sun had now for some time been gone from the valley. The beds were ready for sleeping in. Supper was cooked. The wekas began to wonder what interesting event would happen next, and we began to wonder how Boss had managed the ford of the Hooker. As the daylight was waning I began to get anxious, and several times swept the great shingle wastes through my binocular. Now one of us would sing out "there he comes," but closer inspection would prove that the black speck was no more than an isolated bush. Gradually we came to recognize each of these deceptive objects, and distinguish them one from another. At last, when on the point of starting with a search party, a moving speck

was detected on the far-off flats. Gradually it drew near, and soon we saw that it was a horseman coming along at a good gallop. My mind was not a little relieved, as I had fresh in my memory many stories of lives lost in the New Zealand rivers. Amongst these very same ranges Dr. Haast thus lost his friend and companion, Dr. Sinclair, on their first exploring expedition. Boss lost no time over the grass flats, and was quickly in camp. He had found the tin standing beside the wheel of the waggon, and when I asked him how he got on in the Hooker he shook his head and replied, "The fewer times any of us have to cross it the better."

Our guest having returned from a fruitless attempt to see any glacier ice, though he had stumbled over the boulders of the moraine for several hours, we sat round our camp fire for supper, afterwards we lounged, smoked, and talked, and listened to the faint murmur of the distant streams, the tinkle of the rivulet near our camp, the plaintive cry of the paradise ducks, the shrill whistle of weka answering weka from every part of the scrub, and gazed at the peaceful snow-clad peaks, the sharp rocky aiguilles, and the stars, scintillating aloft like diamonds in the silent sky. The air was a little keen, but it was one of those delicious nights such as are experienced now and then in a lifetime, and remain impressed on one's memory for ever.

No doubt we were just in the humour to thoroughly enjoy the sweet influence of Canopus and the Southern Cross, as we had had a long and eventful day, and could now contemplate with satisfaction that we had reached an important stage in our expedition. The past was more or less commonplace, the future was crowded with dreams of adventure.

We slept soundly that night, though the wood hens did their best to keep us awake, and next morning the sun was shining brightly when I awoke. Boss was already up and away with the gun after the ducks, and Kaufmann was getting the fire ready for breakfast. Our Timaru guest had also risen early and was up the spur at the back of our camp to see as much as possible before his return. I felt rather as if I had slept it out, though I was glad at having scored a good night's rest, and felt particularly fresh after a tub in the crystal stream. Boss returned from his morning explorations with a blue duck, and he had come to the conclusion that our first work should be to bridge the stream which flowed near our camp, as we must cross it on all our expeditions, and a bridge would save us many delays and wettings for the future. After breakfast our Timaru friend started for home. I sent Kaufmann with him as far as the Hooker to render assistance in case of accident, and Boss and B. came with me to select a place for our bridge. Following the course of the stream, which, coming down from the glacier moraine, kept close

under the hill-side, leaving room here and there for a little patch of swamp in which the flax grew luxuriantly, we reached the mouth of a great ravine, from which extended a high bank of *débris*, the accumulated results of landslips, avalanches, and spring torrents. The stream, having to flow round this obstacle by which it was partially dammed back into a quiet pool above, was obliged to contract itself into small compass, and we selected the narrowest spot, twelve feet wide, for erecting our bridge. While engaged in these observations a few ducks were discovered close to the bank on the pool above. As I had brought the gun with me I advanced on hands and knees, and soon secured one of them, a blue duck. No sooner however had I fired than a pair of fine paradise ducks rose and came wheeling round towards me. I missed them the first shot, or I rather think I fired when they were yet too far off, a mistake I often made here, owing to the difficulty of judging distance correctly, when in close proximity to the lofty mountains, but with my second barrel I brought down the drake, a splendid bird, with a white head, the rest of the plumage being dark brown. The blue ducks¹ are about the size of widgeon, and though they can make good use of their wings when pressed, they evinced the greatest dislike to flying. When alarmed they invariably took to the land, and their bluish grey plumage was so similar to the colour of the stones or the shadows

¹ *Hymenolaimus malacorhynchus*.

reflected from the blue glacier water that it was then difficult to detect their whereabouts. They were stupid birds, and to save our cartridges we often pelted them with stones till they came close enough together for two or more to be tumbled in the one shot.

The paradise ducks,¹ nearly twice the size of the blue ducks, resembled geese in their harsh, plaintive cry, their heavy flight, and their tactics when feeding. It was most difficult to approach them, as a male bird constantly stood as sentinel with head erect, while the rest were on the feed. They usually went in flocks of six or seven, and unless on the wing it was difficult to bring them down. One day I fired at a fine fellow swimming in the pool at about thirty yards. I took steady aim, saw the shot splash all around him, but with no further effect than to cause him to rise on the wing and wheel round to see what all the row was about.

It was no little satisfaction to find that we could replenish our larder in this manner, as we found that the sheep which we had expected to find on the grassy flats near our camp and on the slopes of Mount Cook were this year feeding on the far Ben Ohau range.

For years it has been customary to send a mob of about 2,000 sheep across the Hooker to Mount Cook for the summer months, but this year, owing to some ice bridge in the Hooker glacier having given way,

¹ *Casarca variegata*.

they were unable to cross, and all this fine pasture was going waste. It was particularly annoying to us, and we could not help enlarging on the want of energy displayed by the proprietors in not bridging the Hooker.

Boss and Kaufmann declared that it would take no more than a week with the timber ready as it was to hand at the very narrowest part of the stream, for them to construct a bridge to let the sheep come across.

There was no large timber near where we wanted to build our bridge so on our way back to camp we selected the limbs of some burnt scrub, which, though half rotten, were stronger than anything at present green. Kaufmann having returned from seeing our friend safe across the Hooker we disposed of our dinner, and taking a rope and the axes set off in good earnest to work at the bridge. Cutting down some very crooked poles, which were however the straightest that could be got, we hauled them out of the scrub by the rope, and carrying them to the place where our bridge was to be constructed, deposited them on the bank. We then lashed five pieces together, making a structure about sixteen feet long, and standing it on end let it drop across the stream, checking its fall and guiding it into its place by guy ropes from the further end. Kaufmann crossing without delay secured it with pegs, and a few finishing touches made it a perfectly trustworthy bridge.

It was not only the means of saving us much trouble when starting on or returning from our expeditions, but being immediately below our duck pond it was most useful in enabling us to secure many a wounded bird which would otherwise have passed down the rapids and have been lost to us. During the day very heavy squalls of wind blew in the valley though the sky was quite clear, some of them so violent as to force us to run along before them, and we often expressed a hope that this kind of weather would not prevail when we were on the higher ridges of Mount Cook. It made us, however, more alive to the danger of our camp being injured, and we spent the rest of the afternoon making it as secure as our materials would permit. I stitched hooks to every seam about midway in the tent walls and lashed each with cord to the roots of the scrub. We put heavy stones on the edge of the outer tent as the loose ground would not hold pegs, and the result of our care was that though storms did sweep down the valley our tent weathered them all and kept our goods dry and sound.

As the supply of mutton upon which we had counted on this side the river was not forthcoming, it behoved us to be as economical as possible of the food we had brought with us, and also of whatever we might procure with the gun. Roast duck and broiled chops would of course have been most delicious, but Boss demonstrated that roasting was very good where

there was food to spare, but in our case it would be sheer and unwarrantable waste, so everything went into the pot to boil, and by eating the flesh and drinking the broth we secured all the nutriment. At first the broth, in which the flavour of a swamp hen was rather too pronounced, seemed inclined to disagree with one's internal economy, but I gradually got to like it, and mutton, duck, or afterwards parrot soup, usurped the place of tea or other beverage at all our meals. It was no doubt a good plan under the circumstances, and I believe "souping it" as my men called it, stood well to us during our weeks of hard work.

As the morrow was to be devoted to a long exploration of the Tasman glacier, we were anxious to go to sleep betimes, but as I had to develop a few photographs I had taken, and to put in fresh plates for our expedition I was forced to wait up till darkness was complete; this was a great annoyance, so I piled up blankets on the Alpine tent to try and make it dark. It was a lovely clear night, and seemed not in the least inclined to get darker, so growing impatient I opened my slides too soon and fogged my negatives. As we were always ready for sleep, or at all events tired when night came on, I regretted much that I had not provided some plan for changing my plates in the day time, and many a negative was lost or spoiled by trying various dodges to obviate the difficulty.

Sleep reigned in the tent when I entered, so dropping off my clothes as quietly as possible and taking care not to tread in B.'s eye I mounted to my hammock, and was soon in a land where cameras and pyrogallic acid are unknown.

CHAPTER X.

“Ye ice-falls ! ye that from the mountain's brow
Adown enormous ravines slope amain—
Torrents, methinks, that heard a mighty voice,
And stopped at once amid their maddest plunge !
Motionless torrents ! silent cataracts !
Who made you glorious as the gates of Heaven
Beneath the keen full moon ?”

COLERIDGE.

Preliminary exploration of Great Tasman Glacier.—Reconnaissance of
Mount Cook.—Keas.—Sub-Alpine vegetation.

It seemed as though I had enjoyed my blissful dreams for a very short time, when I was awakened by Kaufmann striking a match to see what o'clock it was. Muttering something about “sehr spät” he got up and went out of the tent. Having discomfited some wekas which he found picking at our kitchen utensils, I next heard him preparing the fire. This told me it was all up as regarded sleep, so I dozed till I saw the glimmer of the dawn, and as Boss was now up and dressed, I took my note-book, and, recording the reading of my aneroid which hung close to my head from the

ridge pole, I dropped from my hammock; then I read the thermometer, and at 6 A.M. we were all assembled round the fire for breakfast. After packing up provisions for the day in a knapsack, we took our axes and started for the glacier. On our way to the bridge we cut a few light poles, as my desire was to fix them at the highest point to which we should ascend that day, and by observing them later on come to some knowledge concerning the motion of the glacier.

Having crossed our bridge, we walked for an hour over grass-covered flats through which the glacier streams wandered in days gone by; now the outlet of the glacier was far over towards the eastern side of the valley and these flats were quite dry. On reaching the terminal moraine we surmounted the first high grass-covered knolls without difficulty, we then passed a deep depression in which a pretty blue tarn lay embosomed in scrub, and facing straight up for the middle of the glacier began to climb the great piles of boulders composing the more recent moraine.

The difficulties of this route were quickly realised, and it being quite plain that a day's work would take us but a very short distance over such ground, we struck off at a tangent, towards the western lateral moraine.

The lateral moraine, standing up like some great ruined battlement shattered in the war of the Titans, was composed of huge cubes of sandstone and jagged slabs of slate, some over twenty feet a side, and ready at any

moment to topple over and crush our limbs. There were also numerous blocks of quartz veined with greenstone in which we kept a bright look-out for gold, and now and then we came upon fragments of a diorite ash breccia. After following the moraine for about half a mile we descended towards the hollow between the boulders and the mountain side, where a pretty blue lakelet formed the source of the stream which flowed close to our camp. Here a new difficulty was encountered, as in some places the scrub composed of the thorny wild Irishman interlaced with supple-jack was so dense that getting through it was impossible, and scrambling over its surface so often resulted in a tumble upon a clump of spaniards with their bayonet-like leaves ready to receive us on their points, that I quickly relinquished the path and returning to the boulders made my way ahead, and had a little spare time to sit on a rock watching my companions, and listening to their loud ejaculations as they forced their way through the thorns.

In these quiet breathing times it occurred to me to think how it is that in a country like New Zealand, where slight shocks of earthquake are of frequent occurrence, all these loose boulders have not had ample time to attain to a state of stable equilibrium instead of tumbling about the moment they are touched—perhaps earthquakes are never felt in these paleozoic rocks of the southern Alps.

After this patch of scrub was traversed we had no choice but to climb over a high bank of boulders which had been shot down from a ravine in the mountain's side and was piled up to nearly the level of the lateral moraine. Then we descended into more scrub, and then came boulders again. It was tedious work, and as the sun was shining down with great power we were soon very hot and thirsty. I directed Kaufmann to ascend the lateral moraine and report if the ice was yet in sight; he sung out that there was nothing in sight but the same interminable piles of rocks, and sloping downwards he joined us a little further on. A stream was discovered some way ahead, and struggling on for another half hour we soon were all on our faces, lapping up the water, bathing our wrists and arms, and luxuriating in the cooling rill. Halting here for half an hour we ate some food and then started once more for a large bank of boulders ahead of us.

We were all pretty well tired, but I was determined not to return till we had accomplished the object of our day's work and had obtained a view of the ridges of Mount Cook. Again I told Kaufmann to incline gradually upwards and report if ice was in sight. On reaching the top of the great rampart he gave a *jödel* and signalled us to come up. We were quickly at his side, and there, beyond about half a mile of moraine-covered glacier, were the first white ice hummocks we

had seen. Making our way over the great piles of angular rocks, alternating now and then with heaps of gravel, and deep hollows with sides of dirty ice, at the bottom of which were pools of slatey-blue water, we came upon a surface stream roaring along through a deep cleft in the glacier. After a little detour we found our way across it, and at last mounted the rough white ice of the glacier. There was now a good road before us, and the fresh cool air off the ice was most invigorating after the roasting we had endured while toiling in the sunshine over the rough moraine and sheltered from any breath of wind. The breeze was refreshing, but what can be said for the view! No words at my command can express our feelings when we stood for the first time in the midst of that glorious panorama. I had studied Dr. Haast's map of the district so closely that all the peaks seemed familiar. I tried vainly to recall the view in Switzerland on the Great Aletsch Glacier in front of the Concordia hut to establish some standard for comparison. Then I tried the Görner Glacier on the way to Monte Rosa; but the present scene so completely asserted its own grandeur that we all felt compelled to confess in that instant that it surpassed anything we had ever seen. My old idea was that the view from the summit of the Col d'Erin in Switzerland on a cloudless day was the most charming Alpine scene I had ever beheld. Now I felt rather bewildered on the subject, and can

only conclude that comparisons of such ineffable glories are worse than useless.

We were now abreast of the southern arête of Mount Cook, whose great glittering mass of ice precipices and hanging glaciers stood up over 8,000 feet above us. The actual summit, a flattish cap of ice, did not become visible, clear of a lower peak, till we had advanced about half a mile further. Mount Tasman was hidden by the shoulder of Mount Cook, but the great ice-fall of the Hochstetter Glacier pouring down from the hollow between these two mountains presented us with as grand a spectacle as it is possible to conceive.

Rising beyond this glacier the square-topped Mount Haidinger, robed in white glaciers, stood as the next worthy member of this giant family. After dwelling on some smaller peaks our eyes swept round to the great mass of Mount de la Bêche, looking something like Monte Rosa, and occupying a conspicuous position between two main branches of the glacier. Further off Mount Elie de Beaumont appeared and then the great buttresses of the Malte Brun range, which flanked the side of the glacier opposite Mount Cook and shut out from our view its own finest peak and Mount Darwin beyond. The glacier on which we stood having an area about twice as great as that of the Great Aletsch, the largest glacier in Switzerland, is really a union of many fine streams of ice, which, coming in on all sides in graceful curves, bear along their tale of

boulders to swell the great rampart of moraine which gave us such difficulty to surmount. The ice beneath our feet was that coming from the Hochstetter glacier, its lateral moraines marking off its identity for many miles after it had united with the main stream. We counted in all thirty distinct glaciers in sight together, some covered with moraines, others composed of purer ice, and the smaller ones on the Malte Brun chain, from their insufficient mass, were broken off high up in their ravines, and sent their ice down in avalanches and their streams in glancing cascades.

Looking back towards the lower termination of the glacier we discovered that the clear ice extended further in that direction than we had thought, and that we might return by it for some distance further than where we had now struck it. With Kaufmann's assistance I fixed the little poles in a line across the glacier, taking accurate bearings by a conspicuous boulder on the mountain side, and then spared a few minutes to secure a photograph and a sketch.

It was now 2 P.M., so deciding that we could only advance for another half hour, we walked briskly ahead for that time, and then with our binoculars repeated our inspection of the arêtes of Mount Cook. The southern arête looked very difficult as it was broken by deep notches, and, even if accessible, would lead us only to the lower summit from which we should have to traverse a long, sharp ridge to gain the northern

and highest peak. A great buttress of rocks formed a spur to the eastward of the mountain, and was connected with this same lower summit by a steep snow arête which seemed to end a little below the highest ridge in the face of a precipice. It might be the right route, but looked most unpromising.

We next scanned the northern arête; its upper portion ending with a gentle slope in the actual summit of the mountain looked as easy as we could desire, but its lower portion was composed of vertical rocks, and even from these we were separated by the ice-fall of the Hochstetter Glacier. However, if its lower difficulties could be conquered it seemed to us the most hopeful route, and it had the advantage of being sheltered till near the summit from the prevailing south-westerly wind, which we could see blew fiercely on the high arête and was itself a source of much anxiety to our minds.

We felt unable on this inspection to decide finally on the best route. We had not time to go further up the glacier and obtain a more complete view, as if we delayed much longer we should be benighted amongst the boulders. One fact at all events was but too plain. Our present camp was much too far from our work and would not do for a base of operations. To carry a tent, blankets, and provisions for a week over the ground we had traversed that day seemed at first sight impossible, and unless we could fetch up enough

provisions to enable us to sit out any bad weather which might intervene, we should be incapable of availing ourselves of the fine weather when it should come. These thoughts flashed quickly through our minds the moment that the situation became apparent.

The only other plan to adopt would be to relinquish any attempt on Mount Cook from the side flanking the great Tasman Glacier, and to seek an easier route by the Hooker Glacier. To explore this other side of the mountain would involve the loss of about a week. And as Dr. Haast's opinion was strongly against such a route, ere we reached our camp that evening we had resolved that as our lot was now cast on the side of the Tasman Glacier, we would stand or fall, succeed or fail by it, and notwithstanding the roughness of the road, we would establish and provision a camp far up on the lateral moraine.

Having turned our backs on the glorious amphitheatre which we could with pleasure have gazed upon for many hours, we returned down the glacier at a quick pace, running along the ridges and leaping the hollows. Then the patches of moraine became more frequent, and great hollows, round which we crept on gravel heaps which crumbled away from the black ice, and threatened us with a rather rough glissade into deep pools from fifty to one hundred feet below. As this style of things did not afford much chance of rapid travelling, we struck off towards our old track under the mountain side. We had

improved but little on our morning's route, for though we travelled well while on the white ice, it had diverged so much from the lateral moraine, that we had to traverse nearly a mile of boulders ere regaining it, and only about a mile lower down than where we had left it when we first took to the glacier.

Once more we were in the hollow between the moraine and the mountain side, and though our former experiences of it enabled us to avoid some of the difficulties, it was heavy work for both arms and legs. As we had now fully decided to shift our camp up the glacier, we selected a conspicuous boulder about thirty feet high, and deposited in a hollow beneath it our ice-axes, the stand of my camera, a packet of photographic plates, and some cartridges which I chanced to have in my pocket, so as to save as much weight as possible on our next journey up the moraine.

While engaged in making our *cache*, two keas or Mount Cook parrots¹ came wheeling round us screaming loudly. They perched on the rock just over us, and bobbing their heads in a most excited and inquisitive manner, expressed their astonishment at our presence by gestures of which the most educated Polly might have been proud. I am sorry to say that our first thought was to try to knock one over with a stone:—I am still more sorry to confess that our marksmanship was so uncultured that we were unable to hit them.

¹ *Nestor notabilis*.

Our final thought before quitting the *cache*, was to pile on a few large stones, as these keas have most omnivorous proclivities, and though I doubt if they would have eaten our axes, they might have been tempted to try such delicacies as the cartridges or gelatine plates.

The scrub through which we had every now and then to penetrate on our journey, was but the lower termination of great masses of the same style of vegetation which extended upwards for about 2,000 feet on the mountain side, and was composed of a great variety of interesting and beautiful shrubs. Of larger trees the white birch, as it is called in New Zealand, was the most striking, it is really a small-leaved beech;¹ then came divers pines, a small kind, *Podocarpus nivalis*, in habit like juniper, being particularly common and especially attractive, as we quickly discovered that the bright red berries with which it was covered were possessed of a most agreeable flavour. There were a number of other bushes with strong gnarled stems and small leaves; coprosmas, &c., which with the thorny wild-Irishman and cord-like supple-jack, combined to form as impracticable and un-get-through-able an obstacle as it is possible to imagine. But the genus of plants which impresses this sub-alpine and alpine vegetation with the most distinctive character is *veronica*. More than sixty species of veronicas have been described as indigenous to New Zealand, and they here take the

¹ *Fagus Cliffortioides*.

place occupied by the rhododendron in the European Alps.

Of smaller plants the great *Ranunculus Lyalii*, or Mount Cook lily as it is called by the colonists, was especially interesting, and its large round succulent leaves about the size of a saucer afforded us a cool lining for our hats as a protection against the rays of the midday sun. Large white asters (*Celmisia*), with flowers four inches in diameter, peeped forth from the boulders where any dampness oozed from the hill side, and the more shady nooks were overgrown with ferns, *Aspidium aculeatum* being the species of most frequent occurrence. Amongst the other bushes we now and then came upon one of those utterly wrong-headed looking trees, *Panax longisimum*, which appeared more like a lot of leather straps hanging up on a stick to dry, than anything else I can think of. The general tone of the scrub and forest vegetation was dark green, but it was lit up here and there by clumps of the delicate pale green leaves of a tree, bearing immense clusters of large white flowers, (*Plagianthus Lyalii*), and as a number of other trees including veronicas were covered with blossom, there was much in the charming surface of the vegetation to compensate for the scratches on face, hands and shins, which forcing our way through it involved. On the hill sides the trees grew about twenty feet high, but on the moraine we were seldom compelled to enter scrub much higher than our heads, and the really dense

portion was generally not more than four feet deep. However, as it covered the boulders so as to hide all hollows, we often dropped into a pit, and as these pits were certain to contain a well developed specimen of spaniard, with swords quite four feet long, and a flower-stalk armed with spines, sometimes ten feet high, such a fall involved the most excruciating prodding about the legs, and the execrations which sometimes rose above the veronicas had better be left unrecorded.

Our return journey differed but little from our morning's work. In time we reached the Blue Lake, where all the drainage of the valley, which had found its way beneath the boulders, gushed forth from numerous fountains and formed the source of the stream which flowed near to our camp. To follow this stream downwards, even if we had to walk all the way in the water, would have been preferable to mounting the high moraine as we were now compelled to do had such a route been possible; but the waterfalls, dense brush, and treacherous swamps made it quite impossible, so we had to content ourselves with ascending the high rampart, and following the general direction of our morning's track, we soon came upon the little tarn in the moraine. This charming little lakelet, which at first sight appeared to be three separate ponds, was bounded on one side by thick scrub, on the other side by the bare boulders of the moraine, and though apparently unconnected with any stream, was found to contain numerous small fish. As we

descended to its margin in order to slake our thirst, a brace of paradise ducks rose from its mirror-like surface, in which the boulders of the moraine and high peaks glowing with the last rays of the sunset, were sharply reflected. As the difficulties of the road now lay behind us, and our camp was separated from us by only a few grassy knolls and an hour's walk over the flats, we sat down to rest. After our long tramp over the scorching boulders, the crystal clear water looked so delicious that I could not resist the temptation of taking a plunge into its cool depths. It was no more than a plunge, however, as the water was intensely cold, coming as it did from the ice close at hand, but it was very refreshing.

We resumed our journey and reached the bridge just as twilight was deepening into night, and in a few minutes later were at our camp. We were much pleased to find Southerland awaiting our return, he had ridden up during the day to see how we got on, and was prepared to stay with us for the night. Kaufmann was not long in setting the fire going, and as we sat round it enjoying a well earned supper after a day of fourteen hours hard work, Southerland recounted to us the lamentable wreck and total loss of our waggon in the Tasman river. The driver with his waggon and team reached Birch Hill on the evening of the 13th, stayed there the night, and next morning under Southerland's pilotage proceeded to recross the Tasman. All went well until they reached the middle of the largest stream; then the damaged

wheel gave way, and the water catching the body of the trap rolled it over, and the next instant waggon and horses were being swept along by the swift torrent. The driver scrambled to shore, and Southerland rode along till seeing that the horses had gained foothold on a gravel spit, he rode into the river, cut the traces, saved the lives of the horses, and let the waggon go swirling away down the river. Its pole standing straight up like a flagstaff out of a quicksand, about two miles lower down, was the last sight the people of Mount Cook station got of the wreck, and when we passed the spot on our return journey even that had disappeared.

All day long the shepherds on the left bank of the Tasman had been mustering the sheep on the range of hills—marked on the map as the Liebig Range. To carry out this manœuvre the shepherds mount the highest slopes, and then by shouting, setting fire to the grass, and encouraging their dogs to bark, drive the sheep downwards where they are easily collected into inclosures on the flats. The fires still burnt brightly on the mountain sides, circling the rugged peaks with a cordon of ruddy light, and forming the most wonderful contrast to the dark blue gloom which shrouded the valley. Lying in my hammock I could still see the glare of the fires through the tent walls until sleep closed my eyes.

CHAPTER XI.

“ Most glorious night !

Thou wert not sent for slumber ! let me be
A sharer in thy fierce and far delight,
A portion of the tempest and of thee !
How the lit lake shines, a phosphoric sea,
And the big rain comes dancing to the earth !
And now again 'tis black,—and now, the glee
Of the loud hills, shakes with its mountain-mirth,
As if they did rejoice o'er a young earthquake's birth.’

BYRON.

We start up the glacier.—Reach Camp No. 2.—Terrific storm.—Fall
back on permanent camp.—Camp No. 2 once more.—Swagging.—
Fifth and final camp.

SOUTHERLAND was early astir and away up the mountain-side with his gun to try and shoot some keas, which we could hear every morning and evening screaming about a thousand feet above us. These parrots are the great enemies of the shepherds, as since sheep have been introduced into the colony they have developed a taste for kidney fat, and pitching on the backs of the poor unresisting animals hold on to the wool with their claws while with their powerful, curved

bills they eat through the flesh till they reach the wished-for delicacy. At first I was inclined to doubt this story, but its truth has been established by such unimpeachable authority that it must be accepted as a fact,¹ and the damage done by these birds in some districts is very serious.

As soon as we had disposed of breakfast we set to work preparing the provisions and camping requisites for our journey up the glacier. B. announced his intention of going no further, and though sorry to lose his company I was glad of his decision, as from what we had seen on the previous day Mount Cook promised to be a tougher undertaking than any of us had anticipated, and the want of experience in one member might seriously compromise the safety of the whole party. Southerland kindly offered to fetch a horse to meet him at the Hooker next morning, and to see him safely across the Tasman, whence he could walk to Tekapo and so get back to civilisation.

Selecting what to take with us from what we could best do without, occupied us all the forenoon, and as Southerland offered to take a pack for us as far as his horse could go, we quickly bundled together a number of articles in the waterproof sheet and started him off. He rode to the edge of the scrub on the side of the moraine, deposited the pack and hung up a red flag which we had given him to mark the spot.

¹ See *Nature*, vol. xxiv. p. 53.

As the particulars of our equipment were the result of much deliberation I here subjoin the details of our mountain camp, and the weights which we had to carry.

	lbs.
Alpine tent, 7 feet by 6 feet . . .	13
Waterproof sheet	7½
Three felt sleeping-bags	18
Opossum rug	7
Blanket	4
Spare clothes, jerseys, &c., for three men	21
Plaid	3
Three waterproof coats	12
Alpine rope	3
Extra rope	3
Kettle, teapot, &c.	5
Gun and cartridges	9
Camera and plates	7
Small hatchet	2
Four tent poles	6
"Hold-all"	4
Instruments, sketching materials, &c. .	4½
	<hr/>
	129 lbs.

As we might expect days of heavy rain and would have considerable difficulty in drying our clothes if once they got wet, we came to the conclusion that it would be safest to stick to our waterproof coats. Kaufmann

and Boss, attired in these yellow oilskins, looked often more like North Sea fishermen than anything else. My large cape was loose enough to hang outside my knapsack and keep all beneath it dry.

It would probably take not less than a week from our lower camp to reach a final resting-place from which we might attempt to ascend Mount Cook ; we were therefore obliged to take with us provisions for a longer period. The amount to be carried on our shoulders when put together appeared somewhat alarming, and Boss said more than once, that he had expected some rough work, but he did not think it would be quite as rough as this. However, the difficulty was before us, and it must either be faced or the main object of our expedition abandoned altogether. Kaufmann gave a significant glance now and then, as he contemplated the packs, but neither he nor Boss ever grumbled, though they knew full well that the heaviest share of the "swagging" must fall to their lot. We all disliked the thought of the weary limbs and aching shoulders which were in store for us, but we were all equally ready to undertake the work, and equally determined that, so long as our limbs and health remained to us, we would persevere till we gained the ice cap of Ao-Rangi.

To render the provisions as light as possible we cut the bones out of the mutton, and having half boiled the flesh to insure its keeping, packed it in canvas with

the ducks: the weight of these two items I have been compelled to estimate in the following list.

Provisions.

	lbs.
Mutton and ducks, about	25
Bacon	6
Meat, &c., in tins	6
Bread	12
Biscuit	12
Methylated spirit	3
Spirits and two flasks	4
Tea, sugar, &c. &c.	10
Rice, &c.	6
Additions to above fetched up to second camp, less amount consumed—	
Flour and meat about	20
	<hr/>
	104
Constant weights, tent, &c.	129
	<hr/>
Total weight to be carried	233 lbs.

For three men to carry a load of 233 pounds over the ground we had traversed on our exploring excursion was a serious undertaking, and it was clear that it could only be accomplished by very short stages. Of the total amount I selected for myself articles to the weight of about thirty-five pounds, which I felt was the most I

could attempt to carry. These consisted of my knapsack packed with small articles, my waterproof cape, plaid, camera, gun, ammunition, and tin of methylated spirits. Some years before, when in Norway, I remember having carried a pack of twenty-two pounds across the Justedal glaciers, and found it quite a sufficient load. Where the arms have not to be used a heavy pack is of course borne with less fatigue than where climbing has to be done: the road now lying before us involved a constant scramble over rocks. Kaufmann and Boss were as keen to get at our work as I was myself, so they set about arranging their loads to the best advantage, Kaufmann selecting about a hundredweight for himself, and Boss taking the remainder. The plan of action decided upon was that I should work ahead with my pack to the camping ground as best I could, and that they would divide their loads into four packs, and carrying on the first two containing the tent and cooking utensils, leave me to pitch camp and prepare supper while they returned for the other loads. As we could not finally arrange our swags till we reached the pack at the foot of the moraine, we strapped what remained into tidy bundles, and had everything ready for an early start on the following morning.

The weather that evening did not look all that we could have wished for. As the sun set heavy masses of dark clouds lay low on the glacier, rose-tinted for a few

seconds by the afterglow; then came heavy squalls of wind, and by the time we were ensconced in our hammocks a strong gale, accompanied by deluges of rain, raged in the valley. The tent fluttered, the hammocks rocked; we were well satisfied, however, that our guy ropes were all secure, so we slept soundly, and when the morning broke and the bright sun shone into the valley, and the torn wreaths of vapour gathered themselves into white cumuli and sailed upwards, leaving the mountains as clear as ever, the temperature at the tent door rose quickly to 64° Fahrenheit, and we flattered ourselves that fine weather was again restored to us. As soon as breakfast was over B. took his leave, and started off with his knapsack for the Hooker, to keep his appointment with Southerland. We packed our blankets into the hammocks, stowed away the flour, meal, and other provisions as securely as possible,¹ and then, closing the tent door, put plenty of stones on it to keep out the wekas, who were trotting round us like domestic fowl and apparently quite lonesome at the contemplation of our departure, which they seemed to understand. Then we helped the packs on to each other's shoulders, and, turning our steps towards the bridge,

¹ Doctor von Haast speaks of having been much troubled by rats in his journeys in these mountain valleys. We saw no trace of any. He may possibly have been camped here just when the hordes of Norway rats, which have almost exterminated the Maori rats, reached these Alpine valleys, and, finding their migration westward checked, have since retreated.

commenced our long journey. In about an hour we reached the moraine and, seeing the little flag fluttering from a bush, easily discovered the pack deposited by Southerland, and opening it out we rearranged the loads. If my men's four packs were now equally divided they must have weighed over forty pounds each, but their first loads were heavier, and Kaufmann's the weightier of the two.

Our tent-poles did for alpenstocks, but I could not carry one as I held the gun in one hand, and as the tin containing methylated spirits had developed a leak I had to sling it carefully on its side and carry it in my left hand. Thus encumbered, my gymnastic feats as I swung about my arms on some tottering boulder were more amusing to my companions than enjoyable to myself. We did not feel much in a humour to be amused at anything, it was really all grim hard work, and the only joke we attempted and oftentimes repeated was, that the gravel on the road to Mount Cook was uncommonly coarse! Slowly we made our way up the steep moraine, past the little tarn near which we found a pole standing, fixed by the hand of man—possibly it had been left there by Dr. Haast when he discovered these great ice-fields and gave to the Tasman glacier the name it bears.

Next we came to some thick scrub and before entering it I sat on a high boulder and painted a little sketch, while my men went ahead and were

soon out of sight. I then dragged my pack through the thorns, at times crawling on all fours over the surface of the bushes without setting foot on ground. Sometimes a bush lawyer would get tangled round my legs and oblige me to set down my load in order to extricate myself. Then came a big, moss-covered boulder, and a slip down off it amongst the ferns, or, what was far worse, on to a clump of sharp spaniards. It was tedious, hot work, the sun shining down now and then with great power, though clouds hung about the peaks, and the thermometer in partial shade registered 82°. On getting clear of this scrub I found that Kaufmann and Boss had returned by a more open route over the boulders for the other packs, having left their first loads near a rock. To ease my shoulders I took off my knapsack, and to my disgust found that my plaid was missing; it had been torn from my back somewhere in the scrub, and was now—query where? At first I felt inclined to give it up for lost, but thinking such a course would be miserably contemptible, I set to work to try if I could discover it with my binocular, but failing, I tried to think where last I remembered seeing it and where I might have dropped it. A good sized birch tree stood up conspicuously, and I remembered that near it I was much tumbled about: that was therefore most likely the spot where I lost the plaid. Accordingly, divested of coat and knapsack I retraced my steps, and after a

scramble of about twenty minutes reached the birch tree and there found the plaid hanging on the thorns. After a short rest I again shouldered my pack, and, continuing my scramble, was soon joined by Kaufmann and Boss, and at 3 P.M. we reached the Blue Lake, the source of our river, and selecting the most level place we could find for our camp we set down our loads and prepared dinner. As two of the packs were still some distance back on the moraine my companions returned for them, and while they were gone I occupied my time in making our bed and pitching the tent.

I first cut enough bushes to make a layer the size of the tent floor and some inches deep. Then I cut some of the long coarse grass which grew here and there in clumps, and pulled up whole plants of lovely celmesias to make an upper layer, over this I spread the waterproof sheet, and on top of all pitched the tent. A spring mattress was thus always ready to hand, and it kept us well off the ground, except on occasions when we got tired of cutting a sufficient supply of twigs.

By the time our night quarters were ready drops of rain had begun to fall, and when the men arrived with the last packs it was only too evident that another storm was brewing. About sunset two keas came screaming near to our camp and were shot by Kaufmann. Boss, a few minutes later, added to our larder a brace of ducks which for some time we had watched

near the shore of the lake. The view over the Blue Lake from our tent-door was very pretty, though the squalls which now and then swept its surface into clouds of white spray were unpleasantly indicative of rough weather in store for us. Soon it began to rain heavily; the lower valley and the site of our lower camp were shut out by black clouds. Outside the tent we piled our spare packs, well thatched with waterproof coats; on the tent floor we spread the opossum rug, and over this we laid the sleeping bags. Boss and Kaufmann lay with their heads at one end and feet towards the door, and I lay between them with my head to the door which I could close or open at pleasure without disturbing my comrades. My knapsack and boots formed an excellent pillow, and as we were comfortably tired we soon fell asleep. Our rest, however, was of short duration, as about midnight the wind increased to a furious westerly gale accompanied by a perfect deluge of rain.

The tent could not blow away, the floor and sides being all in one, unless it carried us with it, but we felt certain that it must soon split. It fluttered and banged every now and then with reports like pistol shots, and the rain kept up such a constant roar that it almost drowned the thunder which now began to crash about the mountain peaks. Sleep was quite out of the question, so we lay as patiently as was possible reading the barometer at intervals by the light of a match

and hoping that every squall might prove the last. Dawn came, but the weather was as bad as ever. At 9 A.M. we were ready for breakfast, but preferred to remain in shelter rather than make any attempt to light a fire. Hitherto the tent had kept out the rain, but now Kaufmann discovered that his bag was soaking the wet through the tent wall, then a pool formed in our opossum rug, and it was no longer possible to keep dry. We sat shivering in the tent listening to the rain and the howling of the storm, and watching the surface of the little lake every now and then lashed into a sheet of white foam by the fury of the squalls. At twelve the rain ceased, so we lit a fire and warming up the parrot soup enjoyed a hot meal. Then, as the rain began afresh, we retired to our shelter and sat for two hours, the thermometer standing at 42°. At three o'clock, as the threatening aspect of the weather promised us another rough night, we took advantage of a temporary clear to fasten up the tent, secure the provisions as best we could, and retreat to our lower camp, where we were glad to find a change of dry clothes, the wet scrub having drenched us as we pushed our way through it. About sunset the weather cleared for an hour or so, allowing us to get our supper in comfort; but as it began to blow and rain as night came on, we made ourselves snug in our hammocks and slept in spite of the banging of the tent walls and beating of the rain.

Meeting with a repulse in this early stage of our undertaking was not a little disheartening, but we buoyed ourselves up with the hope that the morrow would be fine enough for a fresh start. Vain hope! When morning dawned the wind was blowing with unabated fury and the cold rain rattled on our tent unceasingly.

The temperature had fallen very low owing to the absence of sunshine during the past forty-eight hours, 42° being the highest reading of the thermometer, so we lay in our warm hammocks till noon, when a temporary lull in the storm enabled us to light a fire and prepare dinner. The storm soon recommenced; a sudden squall of wind and rain quickly extinguished our fire, but as we did not care to return to our hammocks at such an early hour, we adopted the only other possible plan of getting warm, and set off in our waterproofs to explore the Hooker river, and see whether we could reach the Hooker glacier and by it get back to Birch Hill.

On reaching the swollen river, now roaring along in a muddy torrent, we followed its bank upwards to the right to where the stream flowed close under the Mount Cook spur. For some distance we could creep along between it and the hill-side, but coming to smooth rocks, against the base of which the river surged in swirling eddies, we were forced to clamber upwards through the dripping ferns which clothed the

hill-side, and amidst which the gaunt tree trunks of the burnt forest rose high into the air, their decayed limbs breaking off now and then before the gusts of the storm.

Fallen trunks lay rotting amongst the fern, and slid downwards with the saturated mould when we caught hold of their branches to help ourselves upwards. The cliffs cutting us off from the river rapidly increased in elevation, and though we could now see the terminal moraine of the glaciers, it became evident that a much higher level should have been taken on the Mount Cook spur and that the expedition would involve a long day's work.

We were anxious to get back to Birch Hill in order to procure another sheep, so we discussed the possibility of swimming across a deep pool beneath the cliffs, or fording the stream lower down where, though more rapid, it was shallower; but we decided that either plan would be fraught with more danger than the necessities of our position warranted.

On the way back to our camp, in an open space with here and there an isolated bush, we suddenly stumbled upon a whole brood of young wekas. The little chicks ran off squeaking in all directions while the old birds whistled and grunted at us in an injured tone. We set off in full cry after the chickens, which dodged in and out with the most amazing agility, but by keeping them out in the open we soon ran them down

and captured three terrified little creatures. By this time old wekas had come running in an excited manner from all points of the compass, and it was a ludicrous sight to see the quaint attitudes of these strange birds as they circled round us at a respectful distance and grunted forth their indignation. As we returned their chicks to them unharmed I am sure they felt convinced that their interference had had an important influence over our actions, and for a long while after they had retired from the eventful scene we could hear them muttering and grunting as if congratulating one another on the effect of their demonstration.

About sunset the weather cleared for a few hours and enabled us to light a fire, cook our supper, and dry the wet clothes by almost roasting them on sticks placed across the fire; but at nightfall it came on to blow and rain as hard as ever, so we were glad to seek our never-failing refuge between the blankets. About midnight we were awakened by a torrent of rain like the bursting of a waterspout; there seemed to be no wind, but the roar of the rain made it impossible for us to hear one another's voices; then a deathlike stillness followed and we fell asleep. When we awoke next morning the sun was shining, and on looking out of the tent we beheld the whole landscape down to the bases of the hills clothed in a robe of freshly fallen snow. The wind had changed to the south, and shreds of white vapour sailed quickly up

the valley and, rising above the glaciers, vanished in the blue. The temperature rose to 75°, the snow was melting rapidly even while we gazed upon it and would soon be gone from the level of our upper camp.

Immediately after breakfast I started off for the Blue Lake, leaving my men to follow when the lower camp was dried and secured. I took the gun with me in hopes of meeting some ducks, but finding none, I deposited it and a few cartridges at the bridge, for Boss to bring along; then ascending the glacier moraine to the little lake, I took a swim in its deep, clear water, and scrambled on much refreshed to the camp. Everything was *in statu quo*, except that the wekas had been making free with our ducks.

The snow was nearly gone, so I collected plenty of dry wood from an old avalanche slope, and, lighting a big fire, soon had the sleeping-bags steaming away, and as the sun shone down with great power everything was dry when the men arrived in the evening. Boss proved the best sportsman; he had shot no less than eight fine ducks, and with those already in our larder and a few parrots we were now well provisioned. It rained again a little at night, but as we had fixed our oiled sheet as a fly on the weather side of the tent we did not repeat our former experience of wet bedding, and as next day, Feb. 19th, was beautifully fine, we resumed our journey in the same manner as before, my men going over all the ground twice.

We hoped this day to have reached a bank of snow, the remains of a spring avalanche which partially filled the hollow between the moraine and the mountain-side some distance ahead of us, as it would be a good safe larder in which to bury our fresh provisions, which were already suffering from the blow flies and the almost tropical heat of the midday sun.

At 1 P.M. we reached the boulder beneath which we had deposited the photographic plates, &c., and finding them in good order we halted beside a stream for dinner. As there was no chance of reaching the snow that evening, and no stream between it and where we were, we had to content ourselves with this termination of the day's journey, and to look out for a sheltered situation for our tent. A kind of bay in the mountain-side here gave room for a wide gravel flat which, though here and there overgrown with Spaniards and bushes of Wild Irishman, showed evidences of being swept in early summer by a wide torrent, now represented by a tiny waterfall which, after babbling amongst the boulders for a short distance, vanished underground. Outside this gravel flat the great lateral moraine continued its course in a line true to the general direction of the main valley, and looked like some great railway embankment in the symmetry of its outline.

This place, the only bit of level walking in our whole journey, offered no shelter for the tent,

so, crossing it, we cut a snug nest for ourselves amongst the scrub which clothed the hill-side, and while I pitched the tent my men went back for their last loads, and I had supper cooked when they returned about sunset.

Next morning we were up at the first streak of dawn; the snows of Mount de la Bêche, shining brilliantly in the sunrise, presented a most charming spectacle and promised well for the coming day. This mountain, always in sight, was the only one of the higher peaks visible from the hollow through which our journey lay, so its double peak soon became as familiar to our eyes as is the Jungfrau to the dwellers at Interlaken. From sunrise to sunset, and even in full moonlight, we had opportunities of admiring the beauty of its outline and its domes of spotless snow. Breakfast over, we shouldered our "swags," the ice axes now proving an additional incumbrance, and worked along towards the point where a great buttress from the mountain-side advanced towards the moraine and once more contracted our valley to a boulder-filled ravine, through which we stumbled and climbed, our progress being greatly retarded by the almost impenetrable nature of the scrub. At last we gained the bank of snow, and, burying in it our fresh provisions, passed on to the hollow beyond and selected a camping ground. The hill-sides were still covered with scrub, so I had no difficulty in procuring our bedding by cutting

veronicas and pulling up large plants of celmesias which, with a little coarse grass, completed our mattress.

When the last load for the day arrived it was still early, so ascending the moraine we set off across the glacier to the spot where I had erected the poles, but found them all prostrate and blown to some distance from the holes in which they had stood. The sunshine and storm of the past seven days had so altered the surface of the glacier that we had some little difficulty in finding the holes which we had made. When we set the sticks up again and I ran my eye along them to the mountain-side, I found that they were still in an almost perfect right line, showing that in that time no motion of any importance had taken place. This was, however, what might have been expected, owing to the flatness of the lower portion of the glacier, the incline being about 100 feet to the mile.

On quitting the white ice we crossed a heap of medial moraine and returned to camp over the dirty ice and boulder heaps of that portion of the glacier which was derived from the first tributary glacier from Mount Cook. This glacier I have named the Ball Glacier, after John Ball, M.R.I.A., the first President of the English Alpine Club, and one of the founders of Alpine exploration. On gaining the top of the lateral moraine we could look down upon our little tent snug in the hollow beneath, and as there was yet some daylight to spare we had time to pause and enjoy

the view. The great pile of recent moraine, on which we stood, overtopped a rampart of ancient moraine, showing that the glacier, at a period not very remote, was smaller than it is at present, oscillations of level being most distinctly recorded, not only here but at various other points where we were able to make observations.

The old moraine was consolidated by the disintegration of the rocks composing it, and afforded soil for numerous tufts of sword grass and smaller plants. Here, for the first time, we found the New Zealand edelweiss (*Gnaphalium grandiceps*), and my men seemed to take fresh heart after all their fagging work when we had our hatbands adorned with the familiar little felt-like flowers. Boss had a piece of Swiss edelweiss in his hat, so we were able to institute a comparison on the spot. Our new found treasure grew somewhat taller, its leaves were smaller, and the petals shorter and less pointed than its Swiss namesake. The species were not identical, but they were at all events first cousins. As we seemed to have passed the region frequented by parrots, we deposited the gun, cartridges, and a few other articles that we could best dispense with beneath a boulder, as here they would be within easy reach should we have need of them. All possibility of adding to our stores was now apparently at an end, so we took stock of our provisions and, dividing them into rations for six days, decided that while in camp

we must be content with a handful of crumbs each at every meal and reserve the unbroken bread for our expeditions.

After a good night's rest on our bed of veronica, we rose at 4.30 on the 23rd, and having fetched our mutton and ducks from the snow-drift, and packed up camp, we started at 5.30, hoping by a long day to reach a camping ground beyond the Ball Glacier, which, coming down from the left, terminated the valley about two miles ahead. The travelling was rough, but by 10 A.M. we had reached the middle of the Ball Glacier and from a commanding position scanned the further spurs.

The great morainic accumulations at the foot of the spur between the Ball and Hochstetter Glaciers, which I shall in future call the *Eastern spur*, offered no situation for a camp, as it was devoid of vegetation and was in many places exposed to cannonades of stones from the cliffs above. On the spur beyond the Hochstetter Glacier the vegetation seemed so sparse as to promise but a scanty supply of firing. So we decided that our fifth and final camp must be in the angle below the junction of the Ball Glacier with the main ice stream; and retracing our steps, we sought a sheltered situation on the shingle near the mountain-side. Here a glacier stream promised a supply of water, and the whole place was strewn with dead wood brought down by landslips and avalanches from the steep slopes above.

Whilst looking for a suitable nook for our tent, Boss

came upon a little square patch of dwarf gnarled coprosma exactly the square of our tent. It grew by itself on the gravel in a snug corner, and seemed prepared so specially for our use that, not wishing to decline the hospitality of nature, we filled up the centre of the square with some cut bushes and pitched our tent on it. Never was a bed more comfortable; its spring was perfect, we never sank to within less than five or six inches of the ground, and so long as the wekas contented themselves with squeaking and grunting, and not pecking upwards, we did not wish to deny them the comfortable lodging beneath us which occasionally they sought.

The tent being pitched and the fly fixed on its weather side in case of rain, our next care was to cook our supper. We selected for our kitchen a sheltered nook amongst large boulders, which had been shot down from a gully hard by, and, arranging stones for seats, soon had a comfortable kitchen and *salle à manger* all in one, while a dark hollow stopped by a large stone formed a convenient and safe locker for our provisions. Soup, fried bacon, and a handful each of crumbs from the bread bag formed our supper: and then we sat amongst the warm stones, sheltered from the keen night wind, which chilled the valley immediately after the sun had passed to the westward of the snowy range.

The place where we were camped was one of those

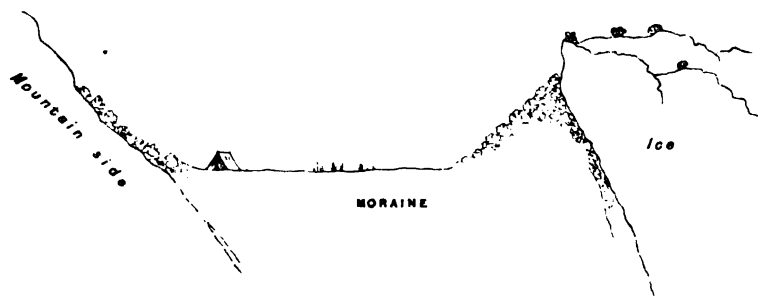
flat spots where a bay between the mountain spurs gave space for an area free from boulders. Our tent was close to the scrub-covered hill-side, the foot of the moraine being distant about two hundred yards. A patch of coarse grass with swampy hollows filled the centre of this area, then came bare gravel, and again coarse herbage on the lower slope of the moraine, in which was a clear spring formed by the water of the glacier filtering through the gravel. From this spring we were able to procure a constant supply of good clear water. The large white blossoms of celmesias were particularly abundant about this spot, and numerous sedges and tiny flowers adorned the little rills, which soon vanished in the porous soil. Above our spring the bare boulders were piled up into a rampart about sixty feet high, over which the ice of the glacier rose in a vertical wall of from twenty to thirty feet. By continually dropping stones from its upper surface on to the top of the moraine it was thus daily, before our eyes, building up the high rampart which may be, in the ages to come, the only record left of the existence of the great Tasman Glacier. The sounds of these falling stones did not cease even at night, when all other glacier voices were frost-bound; often, when I chanced to wake, I heard the stones rattling down, and one night I was startled by a sound as of a cannon shot when some new crevasse sprang into existence.

Though the middle of the glacier was much shrunk

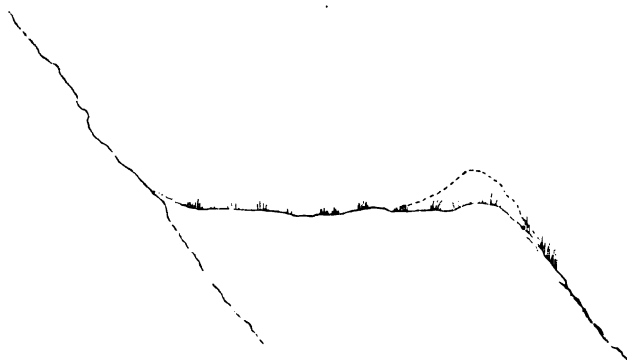
and lower than the sides, its whole weight seemed to bear heavily against the moraine near our camp; at one spot the moraine was actually burst through by the pressure and tumbled over as though it had been an old ruined wall. This ice belonged to the Ball Glacier which issued from the gorge just beyond our position, and on meeting the ice of the Hochstetter Glacier was pushed aside at an acute angle to its former course, and forced down the valley. It would seem, however, that this piling up and pushing down of the moraine was not due to any increase of volume in the Ball Glacier, but rather to a diminution of its power relatively to the other glaciers which pour their ice into the great trunk of the Tasman Glacier. When the Ball Glacier was larger, it no doubt resisted the pressure of the main glacier more successfully, and on issuing from its gorge made a wider sweep before submitting to the weight of external circumstances. At the place where the moraine was tumbled down we could gain easy access to the ice wall of the side of the glacier; here we made the larder for our fresh provisions, and from this point I was able to sketch a section of the lateral moraine and the valley inclosed between it and the mountain-side where our tent was pitched.

This section illustrated well the method by which the glacier forms terraces somewhat similar, perhaps exactly similar, to those of the lower Tasman Valley.

On the morning of February 24th we started for an



SECTION OF MORaine VALLEY



SECTION OF TERRACE
IN LOWER TASMAN
VALLEY

excursion up the main glacier in order to have another good look at Mount Cook before commencing our attack, and also to secure a few photographs and sketches; and to make other observations, for which up to the present I had had but little opportunity.

Crossing the Ball Glacier some distance below its gorge, and observing that its size was about equal to that of the Lower Grindelwald Glacier, we crossed a medial moraine and gained the pure ice of the Hochstetter Glacier, not however without difficulty, as a surface torrent roared along a ravine in the ice about 100 feet deep, between the two glaciers. The ice hummocks were on a very large scale, but an hour's work brought us to the next medial moraine, between the Hochstetter ice and that of an unnamed glacier which pours down from Mount Haidinger, and here we halted for a couple of hours while I sketched and took bearings with a circumferenter.

The day was wonderfully bright, and the great glare of the spotless ice-fall of the Hochstetter Glacier, which, tinted with every icy hue, reflected so much light that we had to keep our blue goggles on all day; and not having a spring shutter for my camera, I found it impossible to avoid over-exposing my photographic plates.

Mount Cook dominated the whole scene in superb majesty. The face of the mountain towards us was simply a dazzling wall of frosted silver, but from this point the route by the northern arête looked so un-

approachable, that we decided to relinquish it for the present, and to make our first attempt by the southern arête, the route to the beginning of which was, at all events, not beset by any serious difficulty.

There being no object in proceeding further up the glacier unless we were prepared for a really long expedition, I devoted some time to sounding crevasses in order to try and gain some idea of the depth of the glacier beneath our feet. For this purpose I had brought with me a ball of 300 feet of cord, and tying a stone to the end, lowered it into an immense crevasse, or rather, *moulin*. One, two, three hundred feet went out, and still no bottom. I then attached our Alpine rope to the cord and paid it out till we reached the length of our tether, 360 feet. On hauling in, however, we found that our sounding line had fouled, so the measurement could not be relied on.

Kaufmann then cut a few steps in the ice so as to get as near to the brink of the abyss as possible, and we had another heave of our lead, but with a similar result. Several other attempts also failing to get the bottom in a satisfactory manner, I adopted the plan of dropping large stones into the widest part of the crevasse, and timing their fall, the mean of a number of observations made with my watch gave five seconds as the time the stone took to fall before we heard the first crash, and as a series of bangs followed for as long again, the crevasse must at least have been 500 feet deep, and when the

sounds ceased the glacier floor may not even then have been reached.

On our way back to camp we were not a little surprised by seeing a large sea-gull winging its way up the glacier in our direction ; it flew close to the surface of the ice and passed within a few yards of us ; its slow steady flight had a business-like air about it, and the grey speckled plumage of a young bird told us that this was one of the fledglings which we had met far down the Tasman Valley now making its first pilgrimage over the snowy range to the western sea. On it went over the ice hummocks, over the moraine heaps, on towards the great glacier between De la Bêche and Haidinger. Soon it would be across the Col and gliding down over the western glaciers—those unknown glaciers—to the sea. Never before did I feel so impressed with the finiteness of man's powers of locomotion. There we were, "the lords of creation" forsooth, struggling and stumbling in every ungraceful attitude over the tottering boulders. And this young creature, only a few weeks hatched, sailed by us, as it were, in calm irony, not even deigning to glance at us or avoid our proximity, so contemptible did we seem.

We comforted ourselves on the remaining part of the way by picturing the pleasure we should have experienced in dining off the bird had we but had the luck to catch him. This horrible idea may have arisen from the shortness of our provisions ; or perhaps the New

Zealand air may have taught us that this would be the most natural compliment to pay an unexpected stranger. However it was there was a big "if" in the way, and the young sea-gull was by this time, no doubt, disporting himself in safety amongst the wave-crests of the wide Pacific.

CHAPTER XII.

"Trust me, 'tis something to be cast
Face to face with one's self at last.
To be taken out of the fuss and strife,
The endless clatter of plate and knife,
The bore of books and the bores of the streets,
From the singular mess we agree to call Life,
And to be set down on one's own two feet,
So nigh to the great warm heart of God,
You almost seem to feel it beat,
Down from the sunshine and up from the sod."

LOWELL.

First attempt on Mount Cook.—Boss and Kaufmann descend to lower camp for supplies.

ON February 25, the morning after we arrived at the conclusion that our first attempt was to be by the southern ridge, we were astir at 5 A.M., and as we sat amongst the boulders discussing our breakfast, the sun just touched the peaks of Mount de la Bêche with his rosy beams. The glacier still lay in cold grey gloom, the music of its streams hushed, and the bed of the brook, which chattered over the boulders near our camp

every afternoon, quite dry, awaiting the warm sunshine to rouse its springs from their icy sleep. A pair of keas, attracted probably by our encampment, sailed about the crags uttering wild screams. The shrill whistle of a woodhen answering its mate came from the scrub on the mountain-side. Daylight was quickly creeping down the mountains, and, as we wished to be out of the warm valley before the sun rose, we shouldered our packs, consisting of rugs for a bivouac and provisions for three days, and filed out of camp at six o'clock. We commenced our climb at a few hundred yards from our tent, and for about a thousand feet ascended steep slopes covered with patches of the large white-flowered ranunculus and veronica scrub, the *Veronica macrantha*, with its white blossoms resembling those of an azalea, being particularly beautiful.

Dragging ourselves upwards from bush to bush was very warm work, and the knapsacks proved especially cumbersome when so much depended upon the free use of our arms. It was therefore a delightful change on reaching the top of the ridge to find that for the present we were done with vegetation. Looking down the steep cliffs on to the Ball Glacier, and across to the great ice-falls and snow-clad precipices of Mount Cook, bathed in the brightness of the morning sun, we thought we had never seen a grander exhibition of mountain glory. We climbed upwards, with the Ball Glacier deep down on our right, the still morning air being rent every now

and again by the crash of an avalanche from the opposite cliffs.

When practicable we followed the ridge, composed of great blocks of yellow sandstone, occasionally taking to some ravine filled with shingle, or to the steep slopes of coarse grass; these in time gave place to patches of snow, and at about 5,000 feet above the sea we reached slopes of consolidated *névé*, bearing evidence of having withstood the sun of many a summer.

As we left the coarser forms of vegetation behind, the tiny Alpine plants became more interesting. Patches of a low growing yellow *ranunculus*,¹ very like a familiar form in Switzerland, and tufts of edelweiss made it difficult to realise that the whole diameter of the earth and the tropical girdle of non-alpine conditions cut us off from direct connection with those northern regions, where almost the very same little alpinos abound. Some unfamiliar forms were also present; ² one, which turned out to be a species of the genus *Haastia*,³ new to science, we discovered at an elevation of 6,500 feet. Above this all life ceased, except so far as it was represented by an ubiquitous little lichen. At 7,000 feet above the sea level nature assumed an aspect which is characteristic of the 10,000 feet line in our Northern Alps.

¹ *Ranunculus sericophyllus* (Hooker).

² *Ligusticum aromaticum*, *Raoulia grandiflora*, *Hectorella caespitosa*, *Celmisia sessiflora*, &c.

³ *Haastia greenii* (Hooker).

We saw no birds during our ascent; the keas who visited us in the morning were now hidden in their places of refuge from the sunshine, as they are birds of the twilight and are only to be heard or seen about sunrise or sunset. Two or three dark-coloured butterflies flitted amongst the Alpine flowers, and a grasshopper at about 6,000 feet was the last trace of the animal creation which we saw.

The porous nature of the sandstone caused all the moisture from the melting snow to disappear as soon as produced, and as we were yet in that stage of training when thirst asserts itself with unwonted power, we were sorely put about for the want of water, for, as every one knows who has tried it, sucking snow does not satisfy the craving.

Mounting these *névé* slopes and rock ridges, we at length came to the last patch of rocks of this spur, beyond which the upper portion of the Ball Glacier, separated from its lower continuation by a precipice down which the ice tumbled in a double fall, curved upwards to a saddle in the main arête.

These rocks being manifestly the right place for our bivouac we eased our shoulders of the knapsacks, and, after a short halt, Kaufmann and Boss took their axes and the rope and went on to explore the arête, leaving me to get a few sketches and photographs. The view downwards to the great Tasman Glacier, 4,000 feet below, was particularly fine, and though the highest summit of

Mount Cook was hidden by the lower southern peak, the view up the arête was supremely grand.

The deep notch in the arête, concerning which we had had much anxiety, was now in full view, and a close examination of it with the binocular was not reassuring, the rocks of its face might be accessible, but the ice slope above overhung it with a heavy cornice.

After an hour's absence my men returned, looking rather glum.

They had reached the ridge, but the first rocky tooth had brought them to a stand ; it seemed to be hopeless they said, but before relinquishing the attempt I had better come and see for myself. Accordingly, attaching myself to the rope, lest any unseen crevasses might occur in the snow-covered ice ahead, we zigzagged up the last curve of the *névé*, and reached the saddle. A magnificent prospect now opened before our eyes. Deep down beneath us lay the Hooker glacier, reminding us of the downward view from the arête of the Finsteraarhorn, while beyond, the glacier-seamed crags of Mount Sefton towered skywards. Further off lay the *mer de glace* of the Müller Glacier, a splendid field of white ice, its lower morain-covered termination lost in the blue depths of the valley at our feet. The high ridge connecting Mount Sefton with Mount Stokes alone prevented us from seeing the western sea. It was a glorious day, scarcely a breath of air stirring ; no cloud visible in the whole vault of blue ; ranges upon ranges

of peaks in all directions and of every form, from the ice-capped dome to the splintered aiguille. It was a wonderful sight, those lovely peaks standing up out of the purple haze, and then to think that not one had yet been climbed! Here was work not for a short holiday ramble merely, not to be accomplished even in a lifetime, but work for a whole company of climbers, which would occupy them for half a century of summers, and still there would remain many a new route to be tried. Here then we stood upon the shoulder of the monarch of the whole mountain world around us, within less than 5,000 feet of his icy crown; but a long jagged, ice-seamed ridge lay in our path. Was it accessible? Let us see.

Immediately on our right the saddle contracted to a narrow snow arête, with a cornice curling over towards the slopes by which we had ascended, and ended against a tower of splintered slates some forty feet high.

Cautiously advancing along the thin edge of snow we reached these rocks, and found them so loose that we could obtain no hand-grips which would bear the least pressure. Boss and I secured ourselves while Kaufmann climbed round the base of the first crag on hands and knees, and when he was safe we followed. We found ourselves on a ridge connecting the first crag with the second which was about twenty feet higher, and so loose, that I believe we could have shoved it over in

either direction, had we had any firm ground to rest on; but the tottering ridge on which we stood trembled beneath our feet, as if undecided whether to tumble towards a big crevasse in the steep glacier to our right, or go thundering down into the Hooker valley. Climbing further was out of the question.

To return to the snow and cut round the base of these rocks above the large *bergschrund* would have been possible, but we would have only reached another rock tooth of much more formidable dimensions, which we could not have turned as it was flanked by precipices. A long series of similar obstacles were in sight, so, disgusted at the "shocking bad state of repair" in which we found the arête, we gave up this route as hopeless, and returned to our knapsacks.

The afternoon was so charmingly fine I should have been glad to have stayed up here till the morrow, in order to make a series of sketches; but neither our commissariat nor the time at our disposal warranted any unnecessary delay, and as it was now 4 P.M. we just halted for a few minutes to eat something, and then, shouldering our swags, set off down the snow slopes as fast as our legs could carry us.

The thirst which had troubled us so much during our ascent was again a source of much annoyance, as we could not delay to melt snow. Boss seemed particularly to feel it, and constantly remarked that he had

never seen such a thirsty mountain before. As we scrambled down the dry rocks of the ridge we came to a gully filled with stones, at the bottom of which, about 200 feet below us, lay a little tarn formed by the water which, percolating through the porous rocks, was here forced to the surface. The idea at once entered our minds, could we get down that way and take a drink *en passant*? Kaufmann thought not, and as we had no time to spare we kept to the ridge, Boss, however, saying he would go down and see and join us again further on, darted down the couloir amid a whole avalanche of stones. Passing the tarn, he ran to the crags beyond and peered over, then waved his hand to signify it was "no go," and immediately began to climb the rocks in the direction of our track. We paused till he could join us, and as he came up the rocks, looking decidedly warm after his rapid climb, I asked, "Why didn't you take a drink when you were down there?" He replied, with much nonchalance, "As I had no means of fetching any up to you, I didn't care for it myself," and so we passed along without saying any more, but probably, like a Mount Cook parrot, "thinking a lot."

As the southern arête was evidently *not* the way to the top of Mount Cook, our thoughts now turned to the eastern spur as a means of getting above the ice-fall of the Hochstetter Glacier, and so to the northern arête. If we could not do this, we might try the eastern

arête which connected the spur with the southern peak of the mountain. Up to the present we had failed to discover a route by which the lower cliffs of the eastern spur might be scaled; so on our way downwards we devoted every spare glance to examining the cliffs on the opposite side of the Ball Glacier. A couloir partially filled with old avalanche snow seemed to lead upwards in a good direction, but as this portion of the spur was capped by a much broken glacier, which kept up as regular a discharge of avalanches as those on the Jungfrau, which are so much admired by tourists on the Wengern Alp, the couloir was not altogether satisfactory; but hoping that we should find a way up by its side safe from the avalanches, we decided that it was worth a trial.

Down snow slopes and rock ridges we at last came to the coarse grass of the mountain-side. It was now twilight, and thinking that a blaze might be seen by our friends away down the Tasman valley, we set fire to the dry herbage, which quickly resolved itself into a sheet of flame; while the lurid clouds of smoke rising above the crags looked black against the golden cloudlets and higher snow slopes, gleaming in the last rays of the setting sun. The Tasman Glacier lay cold and grey, like a huge snake coiled round the roots of the mountains, down in the deep gloom of the valley.

Our difficulties were now passed; there was nothing between us and our camp but steep slopes of veronica,

down which we stumbled and slid from bush to bush. Kaufmann arriving first at the bottom got the fire going, and we lost no time in joining him and taking seats in the *salle à manger*.

We had failed ! we might fail again ! the weather, which was now superbly fine, might break ; the rations into which we had divided our provisions were not sufficient to satisfy good appetites stimulated by the bracing mountain air.

These possibilities of delay, and the importance of having plenty of food to fit us for our work, were the topics discussed after supper ; and the decision finally come to was, that Kaufmann and Boss should rise early next morning, descend to the lower camp, and fetch up as much flour, meal, and other provisions as they could carry.

We were aroused from our slumbers about dawn on February 26th by the flapping of the wings and querulous cries of three keas near our tent. My men rose to get some breakfast and start for the lower camp, and I lay snug in my bag, determined to get another doze. I could hear Kaufmann pelting the birds with stones, and after the men were gone I heard claws scraping the ridge of the tent. Fearing that they might tear a hole in the material I wriggled from my lair, and, stepping out of the tent, stretched and yawned in the sunshine, much to the astonishment of the keas, who flapped about, pitching on the boulders and screaming

at me in an indignant manner; every movement I made brought down a regular volley of abuse.

There was no use in arguing with them as I did not know Kea lingo, so I thought I would eat them if possible, and selecting a few handy stones I tried to tumble the nearest and most audacious bird; however, he hopped up as the stone approached, and abused me more vehemently than ever.

Fetching water from the spring I now proceeded to cook my breakfast. The keas seemed more aggravated than ever at this absurd action on my part; as I knelt near the fire they all but pitched on my head, so seizing a stick, I made a sudden blow with it and knocked the most forward of my tormentors on the head. This was good luck; at all events, here was my dinner provided for, and sitting on a rock I proceeded at once to pluck my prize and prepare him for the pot. One kea seeing this sailed away terror-stricken, and never more was seen, the other, being of a scientific or inquisitive turn, hopped about amongst the feathers which strewed the ground, and taking up one after the other sucked the juicy end with apparent satisfaction. His feelings, however, seemed divided between curiosity with regard to the feathers and indignation at my presence, for, pitching on a boulder, near my head, he "kea'd" at me with renewed vigour.

I made a blow at him with a stick, but, having learned from experience, he knew what was coming, and the

moment I raised my hand he dodged out of the way. Being determined to dodge him I held the stick over my shoulder ready to strike, and moved about as if unmindful of his presence; he hopped close to me—whack! down came the stick—it hit him on the back, knocked out a handful of feathers, and tumbled him amongst the boulders, but, unfortunately, as I had missed his head, ere I could catch him he recovered from the blow, and, flying to a boulder about 200 yards away, gave forth a volley of “keas” which surpassed anything I ever heard before. The eloquence of parrots is proverbial, but this parrot beat all others. I would not translate all he said, even if I could, because, from the tone of his voice, I shrewdly suspect that his language was not parliamentary. After a time the flow of eloquence ceased, and hopping from boulder to boulder, he gained the top of the moraine and then sailed away to the mountain-side. I must say I was sorry for the poor bird as I fear he had a bad pain in his back. The wisdom of these keas was remarkably illustrated by the readiness with which they profited by this lesson concerning a new source of danger. Up to this time we had had no difficulty in approaching and shooting them with the gun, after this incident they never let us come within range. The size of this parrot’s brain when compared with that of the ducks which we shot was a source of frequent comment as we prepared them for the pot, and the deficiency of brain power in the ducks

was demonstrated not only by dissection but by the slowness with which they profited by the lessons of experience. The misfortune of the parrot, described no doubt to his friends with the same eloquence which he displayed on this memorable occasion, brought about a change of tactics in the whole tribe. Whereas, the blue ducks were just as stupid when our last cartridge was fired as they were when first they made our dangerous acquaintance.

When the kea was gone I was left all alone. Alone amongst those lovely mountains; alone, with the purity and beauty which seemed quite removed from all taint of the evil and sorrow said to hang about all earthly things.

“ ‘ Poor race of men ! ’ said the pitying spirit,
‘ Dearly ye pay for your primal Fall—
Some flow’rets of Eden ye still inherit,
But the trail of the serpent is over them all. ’ ”

It may be so. But if any spot on earth can be pure and undefiled, what more likely to be so than this shining world of spotless snow? Though all men do not analyze the charm of Alpine travel, I feel convinced that it lies to a great degree in the highest joy of our higher nature; by being brought out of the world for once in our lives, and face to face with absolute sublimity. Plato tells us that the higher thoughts and aspirations of our lives arise from the memories which

linger of a past existence, in an ideal world where goodness was absolute.

"Trailing clouds of glory do we come
From God who is our home."

If this is true, or if even it merely represents a truth in parabolic form, it must be a good thing to repeat our experience of purity and sublimity. And I can't but think that a visit to one of these holy places of nature must re-enkindle those reminiscences and make us less capable of falling into the narrowness and littleness of mind, from which half the sins of the world take their rise.

But I can't stand preaching like a kea when my men are toiling down the burning valley. I did not stay up here by myself for that purpose; I stayed to work at my notes and sketches, wash my clothes, and have time to attend to many things which in days of hard work were necessarily neglected.

The midday sun now made the boulder valley to glow like a furnace. About 85° under the shade of a rock was the lowest temperature which I could find. The tent was unendurable, being like an oven, and to write my notes and touch up sketches was the hardest work I felt capable of attempting till I had refreshed myself with a "tub" in a deep pool in the glacier stream, unusually full, owing to the heat of the sun. Then, having scrubbed some clothes and spread them out on the hot

boulders to dry, I returned to our kitchen and proceeded to prepare dinner and cook provisions for the morrow's expedition.

It was late in the afternoon when everything was ready, and having still a little time to spare I ascended the hill-side and established bearings of points on the glacier opposite our camp, by which I finally decided that the glacier moved at the rate of about one foot per day, but as the portion under my observation did not extend to the centre of the stream the actual motion of the glacier must have been greater than this.

It was now nearly dark, so I looked out anxiously for the return of my companions, and presently a *jodel* far away amongst the boulders announced their approach. I immediately got the fire going, and when they arrived, weary with their heavy loads, had supper ready. The parrot's head bobbing about on the surface of the broth was a pleasant surprise, as some days had elapsed since the last one was finished.

They brought with them a few tins of sheep's tongues, a sackful of ducks and parrots which Boss had shot; some flour, meal, and the gun, in the vain hope that keas might again visit our camp. They had had a very hard day's work, the heat down in the valley was terrible, but they said that after the night's rest they would be quite ready to resume our attack on Mount Cook. As we feared that Southerland might become alarmed at our long absence from the lower camp, Boss, after

closing the tent door, pinned to it a paper with "Shall be back on March 5th" written on it. Little did they think how soon their message would be read. Southerland, always on the watch for our return, detected through his binocular the wreath of smoke which arose when my men were cooking their dinner. Immediately slaying a sheep he rode with it across his saddle over the Hooker, and must have arrived at our lower camp just half an hour after Boss and Kaufmann had started for their return journey. He took the note and a few days afterwards handed it over to a special correspondent of one of the New Zealand newspapers, who had been sent up to communicate with us, but who was satisfied to stay his impetuosity on the safe side of the foaming Hooker. It was a great disappointment for us afterwards to hear by how little we missed a good feed of mutton, which would have been much better to work on than the ducks, of which we were now rather tired.

CHAPTER XIII.

“The palaces of Nature, whose vast walls
Have pinnaced in clouds their snowy scalps,
And throned Eternity in icy halls
Of cold sublimity, where forms and falls
The avalanche—the thunderbolt of snow !
All that expands the spirit, yet appals,
Gather around their summits, as to show
How Earth may pierce to Heaven, yet leave vain man below.”
BYRON.

Second attempt.—Glorious weather.—Long rock climb.

Feb. 27.—A LITTLE frost on the ground, a starlit sky. The *Monte Rosa* of our scene just blushing with the first touches of aurora, and once more we were gathered round our fire, making preparations for our second attempt. When the rugs were strapped together and knapsacks stowed we helped the packs on to each other's shoulders, Boss and Kaufmann taking in addition the two coils of rope, and at that easy pace always adopted by men who feel that a long expedition lies before them, we strolled up the slope of shingle towards the Ball Glacier.

Half an hour's walk from camp brought us to the glacier, which here stood up in great vertical slabs of ice with perfectly perpendicular walls separated from one another by narrow deep crevasses running parallel with the general course of the glacier. On former occasions we had crossed this ice-stream lower down where it was flattened out, but as our object now was to reach the cliffs of the eastern spur we struck the glacier close to where it issued from its gorge, and thus found that getting on to its surface was a much more difficult undertaking. Selecting a narrow edge of ice we cut steps up it, and after traversing the smooth faces of some big ice-blocks, in which we had not only to cut steps for our feet but also little pits for hand grips, we gained the upper surface of the glacier and found by the aneroid that we were already 200 feet above our camp. Crossing the glacier without difficulty farther than the ordinary exercise of judgment necessary when threading a maze of open crevasses, we descended its further moraine, and commenced to climb a great talus of mountain debris; making straight for the couloir which we had selected when returning from our former climb. After the usual dance over loose boulders, we reached a bank of snow which had been shot down from the couloir, it gave us good travelling as we could kick our toes into it, and before reaching the point ploughed up by recent avalanches from the glacier which crowned the cliffs above, we

turned off to the right and proceeded to climb the rocky ridge by the side of the gully.

This was real good hand and knee climbing; firm grips for hands and feet enabled us to make a foot of actual elevation at every step; we had no rope on as the rocks could be trusted, and without much trouble we soon found ourselves at the top of the first great precipice, looking down which was not pleasant, it seemed quite vertical, but we did not waste time thinking about it, and merely pausing to recover breath and wipe the perspiration from our foreheads we went at the slope of stones above us which, alternating with patches of snow, formed a kind of *glacis* to the cliffs above.

Bearing away to the right we hoped to get round the rock ridges which stood out in strong relief like great buttresses from the frost-splintered slopes; and so to reach the upper part of the Hochstetter Glacier. Our advance in this direction was quickly brought to an end by our meeting with a series of inaccessible precipices extending from the very glacier to far above our present level. In vain we sought for a track by which we might traverse their face, but in addition to mere climbing difficulties, the danger from falling stones seemed very great; we therefore halted at twelve o'clock noon on a projecting crag, to have some food and to consider our next move.

It was splendid weather, and the endless booming and crashing of avalanches testified to the warmth of the

sunshine which all the forenoon struck with full power on these eastern precipices. While discussing the provisions we were startled by an immense rock avalanche.

Not far from us there was a couloir, down which there seemed to be a perpetual fusilade of stones from the cliffs above. A crash rang through the air, and looking towards the gully, we saw it enveloped in a cloud of brown dust from which fragments of rock flew to long distances. The crash became a roar like thunder, the whole mountain shook, rock after rock flew downwards, splintering themselves into a thousand atoms and starting fresh masses. Downwards, downwards continued the smoke and din till it died away far below, leaving us to congratulate ourselves that we were not under it, but making us more anxious concerning the small falls of stones which were continually occurring across our own track.

The Hochstetter Glacier, beyond these cliffs to our right, was now an important feature in our view, and as we were about 3,000 feet above the Tasman Glacier we could make out the plateau above the ice-fall. To get at it, however, was the difficulty.

That we must ascend higher was beyond doubt—so putting on the rope we went at the steep *névé* slope immediately above us. On our left was a very much broken hanging glacier; straight above us, a series of precipices as steep as the walls of some great fortress, to the right of which the *névé* extended upwards

through a couloir till lost to sight in the crags some 2,000 feet above us.

We zigzagged upwards, kicking steps in the snow and avoiding the crevasses till we were close up under the cliffs. A wide bergschrund,¹ which Kaufmann did not like, cut us off from the couloir, so we turned to the left and began to climb the rocks beside the séracs of the broken glacier. These rocks proved very difficult and quite rotten. It was impossible to avoid dislodging loose stones, so we shortened up the rope in order that the stones sent down by Kaufmann, who was often immediately over my head, might not acquire too great a velocity before coming into contact with my skull; and that I might not immolate Boss, who was often vertically beneath my feet.

At last we came to a ledge beyond which to advance was impossible. Kaufmann reached it, we slacking out rope to him; but he had to lower his knapsack to us ere he could effect his retreat. We therefore crept cautiously back down the rocks till we came to the head of the snow slope, then cutting round the end of the bergschrund, we traversed the slope above it, and between it and the rocky wall, securing ourselves at each step by driving the handles of our axes as deeply as possible into the snow. We now reached the foot of the couloir, and finding the snow in splendid order we kicked our toes into the slope and worked upwards,

¹ For explanation of technical terms see Appendix A.

hoping that when we got to its upper termination the way would open itself ahead. Again we were doomed to disappointment ! On reaching the crest above us we did certainly find a level place on which there would be room to lie down, so we flung the knapsacks from our weary shoulders ; but a great abyss opened before us, cutting us off from the plateau which was now in full view.

Selecting this spot for our night's bivouac we proceeded to climb the rocks above and see what chances we had of getting a fair start in the morning. As the rope was a source of delay we took it off, and climbing independently, gained the face of some steep slabs of yellow sandstone which looked very impracticable. Boss and I sat down on a crag and let Kaufmann go on to see if we could ascend any farther. He set aside his axe and carefully climbed to the top of a crag from which he could see over the ridge immediately above us. It was a perilous climb. Finally he got stuck, and singing out to us to guide him in his descent, as the rocks overhung, he cautiously wriggled down the clefts and satisfied us that we were again brought to a stand. There was now no choice about an upward route as we were on a *horn*, as Kaufmann called it, with precipices all round. We were about 8,000 feet above the sea ; our resting place commanded a glorious view of the mountains to the northward and eastward ; Mount Cook itself we could not see, as it was hidden by those horrid crags above us.

Another possible route was yet open, viz. to descend about 3,000 feet by a different couloir from the one by which we had ascended, and reach a part of the lower cliffs nearer to the ice-fall, from which we might work on to the right. But if we did this, it was not unlikely that we would be landed in a *cul-de-sac*, and as from our high elevation we were able to see that the route to the plateau was quite practicable by the Mount Tasman spur, we decided to descend as quickly as possible and try to reach our camp before dark.

It was 4 P.M. when we regained our knapsacks, and after taking a few mouthfuls of food, we readjusted the rope and commenced our retreat, descending the snow couloir step by step with our faces to the slope, as if we had been going down a ladder, and keeping a good hold with our axes. After crossing the bergschrund in safety and taking a line which we knew was safe from crevasses, we turned our faces round, and, settling ourselves in good position, made a splendid standing glissade, whizzing down about 300 feet in a minute; then, scrambling over some rocks, we reached another snow slope, down which we again glissaded for about 500 feet.

Thus, in two hours from where we had taken up our knapsacks, we reached the top of the lower couloir, and then, partly by climbing, partly by glissading down streams of stones—stones and all going down with us in a mild form of avalanche—we gained the bottom

of the cliffs just at dark. The full moon rose in a clear sky, and by its uncertain light we threaded our way through the crevasses of the Ball Glacier, occasionally plunging knee-deep into a clear pool which we had mistaken for a patch of shadow, and at 9 P.M. we reached our camp, feeling rather downhearted at a second failure. We were tired, as for nearly seventeen hours we had climbed with heavy packs on our shoulders; our knuckles were all barked, the skin was quite worn off the tips of our fingers from clutching the sharp rocks, and as for our clothes, all I need say is that those portions most exposed to friction during our descent were entirely removed.

On days of hard work, such as the one just described, we had but little time for eating a sufficient amount of food, so, apart from the necessity of rest, it seemed advisable to pause for another day in order that when we did start for our final effort by the spur beyond the Hochstetter Glacier we might be as fresh as possible. The expedition promised to be a very long one. Accordingly, February 28th was devoted to resting, washing, baking bread, cooking and eating.

The bread we had purchased at Fairlie Creek on the 11th was now nearly finished, but as it was lighter to carry than any bread we could bake, we examined what was left and, cutting out the spots of blue mould, set the remainder aside for our expedition. Dragging together a huge pile of dead branches from the

avalanche slope we lit a fire on an isolated boulder. The flour which my men had fetched up from the lower camp was then produced and I proceeded to make the bread. Mixing soda and tartaric acid with the flour, I worked it with water into a great lump of dough which we divided into tidy loaves, and when the boulder was nearly red hot we placed the loaves on it, building a little wall round each loaf, and laying a flat stone on the top; then piling up the fire over the whole erection, we left them to bake for forty-five minutes, which from experience we found was the correct time for turning out loaves baked to the centre, well risen, and with a nice thin jacket of brown crust. Boss was so charmed with the result that he declared that his visitors at Grindelwald should henceforth be treated to a similar luxury. He had, however, some theories on the subject, one being that bread could not be too much baked. Accordingly, the last loaf was left in the oven to take care of itself while we were at dinner: we saw that the fire had gone out, so concluded it was all right; however, when we went to examine it, we found it baked to a solid mass of crust as hard as the boulder on which it rested; nothing less than an ice axe would have cut it. Boss declared it was the best loaf of the lot, and undertook to eat it himself, but I think for the future his theory will be announced with certain modifications.

As my men had brought with them on their journey

from the lower camp a number of small items of provisions, our dinner this day assumed quite the aspect of a banquet. Here was our bill of fare :—

HOTEL *KEA*,
GREAT TASMAN GLACIER,

February 28th, 1882.

MENU.

SOUP.

Parrot.

Duck.

FISH.

Sardines.

ENTRÉES.

• Sheep's Tongues

RELEVÉS.

Boiled Duck.

Bacon.

ENTREMETS.

Rice and Marmalade.

Cheese.

Ice *ad lib.*

DESSERT.

Assorted.

This may look all very fine, but a good leg of mutton would have been much more to our minds.

After we had made everything ready for the morning's start we dodged about for the rest of the afternoon. Though the weather was still very fine there were more clouds visible than we had seen for many days ; however, we retired early to our tent full of hopes for the morrow.

CHAPTER XIV.

“Where is thy favour’d haunt, eternal Voice,
The region of thy choice ?

’Tis on the mountain’s summit dark and high,
When storms are hurrying by :
’Tis mid the strong foundations of the earth,
Where torrents have their birth.”

KEBLE.

We ascend the Mount Tasman Spur.—Edelweiss.—Bivouac.—Ascent
of Mount Cook.

THE southern ridge of Mount Cook having proved impracticable, and as the route to the northern ridges of the peak by the rocks of the great buttresses between the Ball and Hochstetter Glaciers would not “go,” the only chance remaining for us was to attempt the spur beyond the Hochstetter Glacier. This spur was the lower termination of a long ridge coming down from Mount Haidinger, a fine square-topped glacier peak ; but as it might also be considered to be a part of Mount Tasman, the next peak to the north of Mount Cook, I have usually called it the Mount Tasman spur.

Looking at the ridge from below it was not unlike the spur by which we had made our first attempt, but it differed from it in being completely capped by great domes of glacier, and so far as we could see, the surface of this ice appeared to be broken up by innumerable crevasses. Beyond this icy shoulder we knew there was a wide hollow and a flattish plain of ice, reaching to the bases of Mount Tasman and of Mount Cook, but what then? We could not tell.

At the dawn of day on March 1st we left our camp, carrying, as was our wont, an oil-cloth sheet, opossum rug, one sleeping bag, provisions for three days, two ropes each sixty feet long, our axes and photographic apparatus. A dense fog filled the valley, lying low on the ice, but as many a good Alpine day had commenced in this manner, I felt sure that as the sun rose the mists would vanish. Taking the Ball Glacier at its easiest point we reached its surface without difficulty, and guided by boulders which had now become familiar to our eyes, we struck off towards the white hummocks of the Hochstetter ice. Once or twice I halted to check our direction by the compass and found that Kaufmann's guidance, by the trend of the crevasses, was quite correct. The silence on the glacier was unusual, the streams being all hushed by the frost, and the figures of my companions looked weird as they loomed gigantic through the fog.

As the morning wore on the mists were gradually

rent asunder, bright shafts of sunshine made the great ice-fall on our left to shine resplendent, while at intervals a hoarse rumble amongst its séracs told us that it was waking up to its daily life. In about two hours' easy walking we reached the moraine on the farther side of the Hochstetter Glacier, close to the foot of the ice-fall, and first descending and then ascending over heaps of loose angular boulders, we gained the lower part of the spur, covered with scant herbage.

At first the ridge afforded easy climbing, and as the sun was now shining with full power and a cool southerly wind was carrying all the clouds away up the glacier, we felt our spirits respond to the gladness in the air. As we rose above the glacier and looked down the crags at the blue grottoes in the great ice cascade, we made the rocks ring with the true Alpine *jödel*, to which the echoes responded as though they knew the sound full well.

The ascent soon became more difficult as we met with vertical rocks, which compelled us to leave the ridge and climb the face of the spur. The profusion of Alpine flowers was here most striking; every cleft was adorned with the edelweiss in full bloom, and every spot to which herbage could cling bore its tufts of snow grass and quantities of a little *euphrasia* almost identical, to a casual observer, with the eyebright of our northern land. We found no species of plant on this spur which we had not found before; many plants

which we had come to recognise as common on the other spurs were absent. This was, as might have been expected, because the ridge we were now on was completely isolated, and no seed could arrive on its slopes except through the air. It was more completely insulated by glaciers than if it had been surrounded by water, for seeds might drift across an arm of the sea, but the motion of the ice was, from the absolutely sterile slopes above, to these crags, and away from them, to the more favoured regions of valley vegetation. The only bird we met with was an absurd-looking little tailless wren,¹ which hopped about and came very close to us when we halted for lunch.

The rocks, when we were again able to take to the arête, proved so loose and rotten that we put on the rope, as we had often to pass places where a slip would have involved a sure and rapid descent to the ice-fall below. The want of water to drink was now, as on our other climbs, a source of much annoyance as the heat of the sun was intense, and clambering over the hot rocks was thirsty work. On some parts of the ridge the rocks, split up by frost, were piled in the most extraordinary confusion, and finding on one great slab, on to which we had scrambled, a little hollow containing about a quart of water, we selected it for our midday halt. From here the view down the glacier was very grand; I took a photograph looking southwards, and

¹ *Xenicus gilviventris* (†).

another of the summit of Mount Cook, which was standing out clear against the blue sky. The worst of photography under these circumstances is that white snow and blue sky come out almost exactly alike, and the contrast of colour which so attracts the eye in nature is altogether lost.

Three hours' scrambling from this point brought us, at an elevation of about 7,000 feet, to the upper termination of the rocks. Above us a saddle of glacier lay on the shoulder of the ridge, broken off to our left into huge séracs which looked ready to tumble down the cliffs towards the Hochstetter Glacier. On the right hand it sloped downwards with many a crevasse to join a fine unnamed glacier which carried its ice with a wide sweep into the Tasman Glacier far below. Beyond this saddle steep slopes curved upwards to the highest ridge which, rising higher and higher in the direction of Mount Haidinger, presented a series of jagged rocky teeth alternating with bosses of heavy glacier ice.

Over these icy domes lay our route, but as we could see no prospect of meeting with a *Bergli* on which to spend the night, we determined that under an overhanging rock, where we now were, we must make our nest.

It was about 5 P.M., the sun had passed to the westward of the great snowy range, and though his rays still touched a peak here and there, the greater portion of the scene over which our view extended had taken

the purple tints of evening. One of the peaks of the Malte Brun chain was particularly striking, and every now and again either Kaufmann or Boss would give expression to their admiration of its bold outline, standing up like a pyramid of rock from the glaciers which clung to its flanks. The Matterhorn as viewed from Zermatt is so unique in its startling majesty, a majesty often mocked by the artists who exaggerate the steepness of its precipices, that it would be foolish to compare any other mountain with it.

Subtract, however, from the Matterhorn its highest tower, and this Malte Brun peak may then well claim its brotherhood.

Wishing to economise my photographic plates I contented myself with a sketch, a very hasty one it was, as now that the sun was gone the air was becoming chill, and the sooner supper was over and we were snug for the night the better.

While Kaufmann scraped a smooth place under the rock, arranging the stones with their sharpest angles downwards and making a nice bed for us of material somewhat like road metal, Boss and I melted snow by spreading it out thinly on boulders which still retained some of the sun's heat. By due observance of the laws of hydrostatics and capillary attraction, we guided the drops into my drinking cup and the little saucepan of the spirit lamp, and when enough was melted we boiled a cup of Liebig for supper. The oil-cloth sheet being

spread on the ground, Boss and I lay on it rolled in the 'possum rug. Kaufmann lay on the other side of me ensconced in his bag, and after the usual smoke had been enjoyed we pulled the flaps of the sheet over us and dozed away till morning.

Shortly after 4 A.M. we were awake, but on peeping out found the outside of the waterproof wet with a drizzling mist. It was still very dark, so we waited a little, and then came the pale light of dawn through the fog. We got up, made tea, and a little before six o'clock it was clear enough to move upward. Great banks of clouds had settled in the valley; out of which the mountain peaks rose like islands, clear cut against one of those pea-green skies so peculiar to New Zealand. Other fleecy masses had sailed aloft to the summits of the higher range, and we tried to think that our virgin peak was putting on her bridal veil.

We had encountered no difficulty so far, and it was encouraging to think that after our weary climbs the way ahead was at last open.

A few minutes from our *gîte* brought us to the snow slope, which we ascended in zigzags, then bearing round the head of the glacier to our right crossed a bergschrund without difficulty, and as the snow was in splendid order we struck straight up for the crest of the ridge. So far we had enjoyed the keen night air, but as we cut steps up to the rocks of the ridge we were struck by a sudden glare of light and heat, and looking

eastward saw the sun just appearing over the sea of mountains, which rose ridge beyond ridge like billows in an ocean of golden light. We quickly adjusted our blue goggles and peeling off our coats tackled the ascent. The steep bit was very short; a few steps and the ice curved off to the dome-shaped ridge which we had seen from below, and as we gained its flattened summit the most splendid prospect which we had yet seen opened before us. We overlooked the great plateau; on our left we could just see the top of the Hochstetter ice-fall; before us the great peak of Mount Cook, and then the cliffs of Mount Tasman, between us and which spread out this wondrous field of ice. It must have been nearly two miles wide and about six long, and seemed perfectly flat, though in reality it was a shallow basin. There were no large crevasses except where the ice began to round off to the Hochstetter fall; but some long narrow ones, which we afterwards found to be immensely deep, crossed the field in parallel lines. These, however, gave us no trouble, and we came to the conclusion that it would be a safe place on which to spend the night, with plenty of room for exercise should we find it impossible to regain our bivouac.

What here absorbed our interest most of all was a glacier coming down between Mount Cook and Mount Tasman, which I have called the Linda Glacier. It was much crevassed and broken, but its upper portion wound round into a couloir between the rocky ribs of Mount

Cook, and promised a practicable route by which we might reach the upper part of our arête. By this time every cloud had vanished from the sky and the northern arête, from summit to base, was in sight; so I paused to take a photograph while my men scanned the ridge and the glacier alternately, in order to select the most promising route. Should the glacier prove practicable it was obviously the better line of ascent, but now was our chance of becoming acquainted with every crag of the arête, in case we should be driven to attempt it as a forlorn hope. This northern arête looked a very inaccessible pile of ice-seamed rocks, but as it forked into two gradually diverging ridges we had a choice of difficulties. About half way up, the rocks rose vertically in steps; great towers of rock two or three hundred feet high, and with deep clefts between. Then came some snow, an isolated speck of rock in a bergschrund, and then the ice-cap of the summit. To reach the snow arête above the rocks was the difficulty to be faced. We gave the arête connecting Mount Cook with Mount Tasman but little attention, as we saw no chance of getting on to it, and its upper portion was hidden behind the nearer ridge.

We had to cut steps downwards for a short distance, and then stepping over a small bergschrund we reached the level plateau, and struck across the snow-field towards the Linda Glacier. The crevasses were numerous, but the séracs were not dangerous; and though

we lost time in zigzagging about amongst them and looking for snow bridges, we met with no great difficulty. We were as yet undecided whether we should stick to the glacier or try the rocky buttress on our left. However, as we advanced, the rocks looked worse and worse ; so just pausing for a minute Kaufmann took off his goggles to have a good look, and then wheeling round, led away straight up the glacier without giving the rocks a second thought. We followed, assenting to his decision by taking the steps as fast as he could cut them. Some of the séracs were very steep, some of the snow bridges so treacherous that we had to creep across them on all fours. Many of the crevasses were not bridged at all, so we had to cut down below their brink and, from a firm step, make a stride across the abyss, judiciously paying out rope to each other as the leap was made.

By ten o'clock the most broken portion of glacier was passed, so we called a halt for breakfast on a little level place, above which the glacier rose in another maze of crevasses, and made a sharp angle in its course to the southward, and seemed to promise us good travelling to the base of the final peak. We were now close up to the foot of the arête which connects Mount Cook with Mount Tasman. We were highly elated at our success, and indulged in the most sanguine hopes for the rest of our climb. The wind, however, had changed ominously to the north-east, and thin filmy clouds began to form

in the higher peaks; along the northern horizon dark cumuli were piling themselves up beyond the distant ridges. The sun still shone with great power, bringing down innumerable avalanches from the ice-cliffs of Mount Tasman, and the heat was very great, as we were surrounded on three sides by cliffs catching and reflecting all the sunshine. The view towards and beyond the head of the great Tasman Glacier was more extensive than any we had yet obtained, and fine glacier peaks, probably Mount Tyndall, Mount Forbes and the summits of the Hector Range, were in sight over the ridge between Mount Beaumont and Mount Darwin, which had, until now, bounded our view in that direction.

During our short halt the cloud on the top of Mount Tasman increased, and to our dismay, wreaths of mist began to form round Mount Cook. There was no time to lose. The summit could not be much more than 3,000 feet above us, but it was certain to be a stiff climb, and the lighter we could travel the better. There was no use in taking the camera, as the prospect of a view was small indeed, though at the present moment no part of the panorama was obscured except the tips of the higher peaks. The blue sky overhead was cloudless, and as we had come so far without our coats we thought, for a moment, of leaving them with the camera, but by the time we had finished eating we were sufficiently cooled down to abandon this idea. We dared

not dispense with the spare rope, which Boss carried round his shoulders, but as the knapsack containing the provisions and the flask would be great incumbrances in climbing, we determined to do without them; so placing them on a conspicuous block of ice which had fallen from the arête, we took note of their position and started up the steep glacier in a direct line for the summit. The crevasses in the upper portion of the glacier assumed a different character from those we had met with lower down; besides being very wide, they extended right across the glacier, and compelled us to make many a long detour in order to find a bridge which could be trusted. The delay thus caused was increased by the deep snow being in that most unpleasant of all conditions, having a crust just strong enough to bear our weight until we prepared to make a step, and then letting us through over knee deep.

Several times Boss and I offered to relieve Kaufmann at the work of breaking the steps, but he would not hear of it, and three hours' plodding brought us to the head of the glacier. Here a wide bergschrund pulled us up short, and we scanned the way ahead. The arêtes on either hand had now drawn close together, forming a couloir filled with ice, its lower termination being an ice-cliff of about 100 feet.

I thought we might have turned off to the right and gained the Mount Tasman arête at this point. but my

men considered that the bergschrund across its foot would prove impassable, and that the rocks above could not be managed; and as its upper portion was quite unknown to us, while the northern arête had been inspected and was deemed quite practicable, we crept over the bergschrund on a snow bridge and turned off to the left. So far we had encountered no serious difficulty. Now however the step cutting became heavy work, as the ice was too hard to yield to the adze side of the axe, and from this to the topmost ridge every step we advanced had to be cut with the spike. On leaving the head of the Linda Glacier we ascended a steep slope, and crossed a ridge to the foot of a couloir leading upwards between two rocky ribs, nearly parallel with the main northern ridge. On this slope the steps had to be cut very deep, and the greatest caution had to be observed, as it ended below us on the brink of a profound abyss.

Kaufmann paused a moment to ask me which couloir I preferred to take—the one near us, or that next the main ridge. As there was nothing to be seen of the upper portion of either, owing to the mists which were now driving over the ridge from the north-west, I said, the nearer one; and as some blocks of ice came down while we were speaking, we cut our way as quickly as possible up to the shelter of the rocks. The rocks being quite inaccessible, we continued our way up the ice slope, keeping close to the rocks, and when a report from

above the mists told us that an avalanche was coming, we clung in to the crags as the ice-blocks splintered themselves on the sides of the gully. Some blocks whizzed over our heads with a scream like a shot from a 35-ton gun. The ice in the lower part of this couloir lay at an angle of about 45° , getting steeper near the top where we left it for the rocks on the right. But in a few yards we came to their upper termination, and found ourselves enveloped in dense driving mists. Just before entering the clouds we got our first and last view of the western sea over the Mount Tasman arête, which we were then high enough to overlook.

Matters now took a serious turn. It was past 3 P.M. The rocky ridge we were on, extended no farther; but an ice-slope stretched from where we stood to the blue wall of a great bergschrund, which we could see looming through the clouds and extending round the mountain to the right. To cross this couloir seemed too dangerous; we preferred to attempt the ice-rampart above. We cut steps up to its base, and shoving Kaufmann up, followed him with the help of the rope, but found ourselves over what was only an outwork of the great ice-cliff, built of loose séracs from which the avalanches came, and which was perfectly insurmountable. Cautiously we retraced our steps to the rocks and held a short council of war.

The rocks on the opposite side of the couloir extended

upwards, and might "go." Should we risk the couloir ?

My men asked me, did I see the danger ? I said, of course I did, and feared we must turn back. This would have been a sore disappointment to me, and, as I saw by their faces, an equally great one to them, I asked them were they ready to chance it ? They replied that on leaving home they expected to meet some danger ; here it was, and they were ready, but I must give the word.

"We will top the peak if we go on," said Boss ; "to turn now is to give it up altogether."

The 24,000 miles of travelling also rose in our minds as a strong argument against retreat ; and as the sun had gone in, which lessened our risk, and no avalanche had gone down for some time, I said "Forwards."

A large avalanche block had stuck just mid-way in the couloir, and afforded us shelter when half-way across ; so with anxious glances upwards, Kaufmann cut away with all his might. No time was lost ; and reaching the rocks in safety we once more breathed freely.

Unfortunately, however, the rocks proved inaccessible ; the most we could do was to scramble through a notch, and after the nastiest bit of climbing in the whole ascent, we reached the ice-slope beyond.

A partial break in the clouds revealed to us that there was still heavy work before us ; and the anxious

question was once more discussed whether we should proceed or return. Hitherto we had calculated on being able to get back to our provisions, and possibly to reach the great plateau, before dark. Now however if we advanced there was no hope of this. To go on meant to spend the night on the peak without food ; to go back meant a delay of a week or probably much longer before we could again reach the point where we stood—for our supplies were so nearly at an end that we would be obliged to descend to the lower camp, obtain a sheep from Birch Hill, "swag" it up the glacier again, and all this possibly in broken weather.

These thoughts flashed rapidly through our minds. There was no mistaking the aspect of the weather ; a bad night was brewing. It was 4 P.M., we were about 11,000 feet above the sea. A partial clear showed us the top of the slope before us rounding off to the summit ; and as the last rock of the main northern arête, which we recognised easily a short distance above us on the left, gave us exact knowledge of our whereabouts, I asked Kaufmann how long he thought he would take to cut up the slope. He said an hour at least. They asked me was I ready to spend the night on the peak ? I said I was ; so at it we went, Kaufmann sending the ice flying about our ears at every blow of his axe. A rapid thaw had now set in, and as we broke through the thin crust of frozen snow which lay on the ice, water spurted out, filling the steps and soaking our clothes, as we could

not avoid resting our knees or arms occasionally against the slope.

While coming up the lower couloir we had noticed showers of hail sweeping down the slope; and we had now to face a continual stream of this disintegrated ice, some pieces being so large as to hurt our hands through the mittens. To avoid this annoyance as much as possible, as also to make use of any grips which might be available, we cut our steps close in to the rocks on our right. On any portion of this slope we might, if advisable, have made a traverse and gained the main arête, but there was no object in doing so until the highest rock, and the bergschrund proceeding from it, were passed.

At 5.30 we reached the highest rocks, from which an easy slope led up to an icicled bergschrund, which, starting from the cornice of the arête, ran round the cap of the summit from left to right, and Boss remarked, "If we had taken to the Mount Tasman arête that would have cut us off." The wind now for the first time struck us with full fury; we had to shout in order to make each other hear. And though we had ocular demonstration that it was not actually freezing, the blast seemed bitterly cold.

We bore away to the left to avoid the highest part of the bergschrund above us, and surmounting the cornice without any difficulty, at 6 P.M. stepped on to the topmost crest of Ao-Rangi.

Our first glance was, of course, down the great precipice beneath us towards the Tasman Glacier—the precipice up which we had gazed so often—but the dark grey masses of vapour swirling round the ice-crag shut out all distant view.

A look backwards, down into the dark, cloud-filled abyss out of which we had climbed, was enough to make us shudder, it looked fathomless; and this white icy ridge on which we stood, with torn mists driving over it before the fierce nor'-wester, seemed the only solid thing in the midst of chaos.

Mount Cook was now practically conquered. We advanced rapidly along the cornice; which rose at an angle of about 20° towards what was mathematically the highest point, now and then cutting a step for greater security, but in most cases trusting to the grip gained by the nails in our boots.

Sometimes a blast would come upon us with such force as to compel us to crouch low and drive in our axes firmly, to guard against our being blown off into space. Fierce squalls would shatter the icicles of the cornice and send them down the slopes 'up which we had climbed. Descending with a swishing sound, they soon pounded themselves to pieces, and so accounted for the showers of coarse hail which had proved so disagreeable on the final ice-slope. Now the mists would vanish, giving us a clear view of the summit. Again the inky black clouds would come on, almost obliterating Kaufmann

from my sight, though he was only eight yards distant. From the moment we had gained the arête, anxiety about beginning the descent had filled our minds—as should darkness overtake us on the summit of the mountain, our chances of ever returning to the haunts of men would be but slight. The weather was settling in for a thoroughly bad night. The storm at present blowing was sufficiently unpleasant; if it came on to blow any harder we would not be able to hold our grip. There was no chance of a view. We were hundreds of feet above any rocks, so that we could build no cairn, or leave any record of our ascent. We were all agreed that we were fairly on the summit of the peak, and that we ought to commence the descent. Ten minutes more and the last bit of snow would be under the sole of my boot, when there came a sudden gap in the cornice. A bergschrund broke through it. There was no open crevasse, but a step down off the cornice of five or six feet, a flat, and then a step up of eight feet.

To go round it to where Kaufmann pointed with his axe would have been easy enough, as the summit of the mountain was now comparatively flat. But when little more than an hour of daylight remained, we dared not risk the loss of twenty precious minutes, for what seemed a mere matter of detail. So, pulling out my aneroid, I took down the reading of 19·05 in my note-book, scribbled a sketch of the ridge, and, shouting

the word of retreat, we commenced the descent. Owing to an unfortunate accident having happened to my thermometer I was unable to take the exact temperature; that it was above freezing-point was however evident, as the ice was wet, and our clothes, which had been soaked coming up the last slope, were still soft. In similar situations in Switzerland I have often had my clothes and beard frozen hard; but now, though our fingers were benumbed and painful, I believe the temperature was not lower than 35° , and it may have been as high as 40° .

The slope beyond the gap where we turned, was about thirty feet higher, and this would make my measurement, when compared with the simultaneous observation at sea-level, coincide almost exactly with the trigonometrical height of Mount Cook—12,349 ft.¹

The great problem we had hitherto longed to solve was: Could we get up Mount Cook? That question was now settled. A more anxious problem yet awaited solution: Could we get down?

¹ The barometrical reading for the position of Mount Cook at sea-level on the afternoon of March 2nd was $30\cdot02''$; temp. 65° . These observations were kindly furnished to me by Dr. Hector, F.R.S., from the office of the Meteorological Department, on my sending him the observations I had taken on the mountain. Taking the temp. at summit at 35° , which is the lowest possible, owing to the thaw visibly going on, the result worked by Baily's tables is 12,317 ft. A higher summit temperature would increase the figure.

CHAPTER XV.

"The snows lie thick around us,
In the dark and gloomy night,
And the tempest howls above us,
And the stars have hid their light."

PROCTOR.

The descent of Mount Cook.—*A mauvais pas*.—Benighted.—Avalanches.
—Cold and hungry.—We regain tent after an absence of sixty-two hours.

ON returning to the point where we had first struck the arête, we were obliged to turn with our faces to the ice and descend backwards in order to keep a good grip. "Clink, clink," went the axes into the hard ice with a constant rhythm, and we kept time with our feet, step after step—down, down, down! This is far more trying work on the nerves than going up, and though Kaufmann urged me now and then to take the steps faster, on reaching the highest rocks we congratulated ourselves at having descended so far at a very rapid pace. Here we paused for a minute to loosen some stones; a couple of the topmost bits I put in my pocket, the others we piled in a little heap on

my pocket-handkerchief and Kaufmann's match-box, which were the only articles we could afford to part with, as memorials of our ascent.

These rocks, of grey quartzite, weathering to a reddish-yellow, afforded no shelter whatever from the *Heiter-wind*, which was steadily increasing in violence. The golden tint of parting day gleamed for an instant through the storm clouds, giving a warm blush to the snow. There was no time to lose, so scrambling for a short distance down the rocks, in order to avoid the very steepest bit of the ice-slope which lay at such a high angle that we had been obliged, when ascending, to cut hand-grips in it as well as steps for our feet, we once more took to the ice steps, and went on down backwards as before, making use of any available chink in the rock to hold on by. Kaufmann had cut the steps very far apart, and it was often rather difficult to find the step below and keep a secure grip at the same time.

The lower termination of this ice-slope was the worst bit of the whole descent. The ice thinned off over a ridge of rocks with a vertical fall of about six feet, and bad holding ground below. We could cut no steps, and had kicked away all the grips coming up, and there was nothing to which we could attach our spare rope. The thought of this spot bore heavily on my mind so long as we were above it, and there was only dim twilight when we reached its brink. Kaufmann and

I placed ourselves as firmly as we could, while Boss slipped over the edge, and though he used his axe with great dexterity I felt an unpleasant strain on my hips before he could check his descent. Then came my turn. Kaufmann held the rope tight, slacking me down slowly, till I got my feet on Boss's axe. Kaufmann had no one to slack him down, so Boss stood up to him as close as he could with security, and let him down gently, while I jammed myself into the only crevice available.

To cross the couloir was the work of a few minutes, and as we gained the rocks on the opposite side, night closed in. There was standing room where we now were ; but, exposed to the full brunt of the storm and the sheets of cold rain which beat down upon us, there was no likelihood of our being able to hold out for long. To descend the couloir and find some ledge within its shelter was imperative ; but here a new difficulty presented itself : to avoid the danger of falling ice we had, when ascending, quitted the couloir near its upper termination and taken to the rocks, and now, in the dark, we could not find any rock-grips. Boss's mountaineering instinct came to the front, and telling us to follow carefully, he went straight for the ice. There was no time now for us to make nice distinctions between degrees of danger. After cutting a few steps downwards he found grips on the rocks at the margin of the ice, and when secure himself, guided my feet. I must

say, however, that once or twice I had absolutely no grip except by my hands; Kaufmann, I hoped, was keeping a good hold above, and though we could scarcely make out each other's figures against the rocks, so dark was it, we got down in safety and were once more in the ice steps.

Our progress was now very slow, as it took all Boss's skill to find each step below him, yet we hoped soon to come to some crag upon which we might clamber, but for some distance the rock rose vertically. At last we found a ledge in the rock, and, climbing on to it, thought it might answer for our night-quarters. We took off our boots, and wringing the water out of our socks, put them on again, and, re-fastening our gaiters, tried to feel as comfortable as circumstances would permit. But we soon began to shiver, for we were still exposed to the wind and rain, and my men said we hadn't a chance of holding out for the night in this situation. Kaufmann tried a little cleft near at hand, but a tiny cataract of melting snow pouring down the back of his neck did not seem to be a change for the better. The exploration of this ledge did not occupy many minutes, for a block of ice falling from above, and striking not three yards from where we stood, told us plainly it would not do, as at any moment an avalanche might come thundering down upon us.

By this time the moon, which was now near the full, had risen, and though we could not see it through the

clouds, it gave us some faint light. Once more we took to the ice-slope, descended slowly to the lowest part of the rock ridge, and, turning to the left beneath its shelter, succeeded in finding standing room on a little ledge from which we scraped the snow. It was less than two feet wide, and sloped outwards, so that we had to hold on with our hands, and, as we were still over 10,000 feet above the sea and about 5,000 feet above the mean line of perpetual snow, it was not all that might be wished for a night's lodging. There was no choice, however, as for thousands of feet below there was nothing but steep and crevassed ice-slopes. Kaufmann went on to the ledge first, then Boss, I followed, and in this order we stood for the night. Sitting down, or even shifting six inches from the position we first occupied, was out of the question. Boss and I had one upward grip which served to steady us, Kaufmann found that he had none whatever, but now and then he rested his knuckles against the rock. There was no prominent crag to which we could hitch the rope and so make ourselves secure; but I dropped my axe into a cleft near my feet and let the bight of the rope hang over it. I could not tell whether it would bear any strain, so said nothing about it, wishing to avoid any false idea of security which would perhaps lead to a relaxation of vigilance—the great danger of our situation.

Producing a box of Brand's meat lozenges which

I had kept for a case of absolute necessity, I served one out all round three times during the night. More remained in the box, which we might have eaten, but I reserved them because of a horrible anxiety which was ever rising before my mind:—The bergschrunds of the Linda Glacier had given us some difficulty. What if the thaw now going on should destroy the snow bridges and make them impassable?

Whatever ideas may exist as to the cessation of avalanches at night, in the European Alps, all was different here; not a quarter of an hour elapsed without a distant rumble, or a thundering roar causing the rock on which we stood to vibrate. The warm, north-west wind was of course the immediate cause; everywhere a rapid thaw was going on: the rain streamed down the rock and prevented the water with which our clothes were soaked from getting warm, and now and then a squall would swirl round the crags, bringing a deluge of rain with it. Strange though it may appear, our great hope lay in the continuance of the bad weather, for if the rain should cease and the sky should clear, radiation would set in, and our chances of escaping frost-bite would vanish.

Through the early part of the night there was light enough to read a watch, but after finding how long the first hour seemed, on account of watching its flight, we agreed that we would not look at the watch again till we believed half an hour had gone by. We stamped one foot

at a time to keep life in it, then slapped our legs and shoulders with one hand, holding on all the while with the other. At last the watch told us that four long hours had passed and that it was midnight. The storm howled among the crags as loudly as ever; the avalanches shook the mountain with their thunder the hissing of the cold rain on the snow continued unceasingly; but all these sounds were blending into one monotonous hum in our ears. We were getting drowsy; it seemed impossible to keep awake. To give way to sleep for an instant would be to fall from the ledge, so our whole energies were devoted to trying to keep each other awake. We forced ourselves to keep on talking — we discussed politics, told stories, we sang songs; and though Boss regretted much that the tobacco was with the provisions, over a thousand feet below us, both he and Kaufmann congratulated themselves upon, at all events, having their pipes, which they sucked diligently at intervals, and, by sheer force of imagination, enjoyed several good smokes. In spite of all watchfulness, my feet would suddenly cease their stamping, when a poke from Boss would recall me to consciousness, and the arguments by which I tried to demonstrate that I was not asleep would completely awaken me and set me stamping more vigorously than ever. Then Boss would lean his forehead against the rock, and on getting a pinch from me in return would get through a good quarter of an hour in explaining how he

had no notion of going to sleep. Boss and I stood facing one another, and over his shoulder I could see Kaufmann's dim figure marking time with such awful regularity that we once or twice suspected he was doing it automatically and might really be asleep, but he at once repudiated the base insinuation with contempt. In addition to my ordinary clothes, I wore a sailor's blue guernsey, a warm muffler round my neck, a knitted cap or "Eugenie," made by a friend at home, drawn down over my face, and a second pair of socks on my feet. Boss was similarly clad, except that both he and Kaufmann were without their waistcoats, and as Kaufmann had no "Eugenie," his hat was tied down over his ears with his handkerchief. Of course, we all had mittens on our hands; but as the night wore on we got stiff from the cold, and the effort to keep awake became more and more painful. About 4 A.M. it was so dark that we could not see the watch, and at 4.30, not one moment too soon, came the first glimmering dawn of the 3rd of March.

The light seemed to come very slowly, as the rain-clouds hung in heavy masses on the ice-slopes. Now and then we saw the cliffs of Mount Tasman looming ghost-like for an instant, and again all would vanish. I might have made a little sketch, or I might have taken down the reading of the aneroid, but all such thoughts were absent from our minds. Could we get down? Could we reach our provisions? Would our

limbs do their wonted service? Could our hands clutch our ice axes, which would be our only means of gaining a grip once we stepped off the ledge? These questions were more than enough for our benumbed brains.

At last the long nine hours were past, and at 5.30 it was sufficiently light to make a move, and there was a little glow of heat from the rising sun; so we crept cautiously into the ice-steps and resumed our descent. We moved one at a time, still descending backwards, Kaufmann and I holding on while Boss cleared the steps below, then I moved down, and so on again. Kaufmann's hands were badly blistered from the long spell of step-cutting he had had during the ascent. Following our track downwards through the fog, the wide bergschrund of the Linda Glacier at last yawned beneath us. The snow was now very soft, so we drove the handles of our axes deep down, and approached the brink of the abyss cautiously. We looked into the blue depths, but the bridge which we had crossed by when ascending was gone! Fortunately, a little to the right, near to where the glacier broke up into séracs, a possible route across the crevasse yet offered itself, and Kaufmann, now taking the lead, crept on all fours on to this bridge, while Boss buried himself in the snow and kept the rope tight against me, as I had of course to hold the rope and slack it out as Kaufmann made his way across.

It was a very rotten bridge, the chasm below seemed fathomless, but Kaufmann reached the other side in safety, and as the slope on the lower side was away from the crevasse, he was a secure anchor for us as we crept across in like manner, and so, one great source of anxiety being removed, we breathed more freely. We soon struck again into our old track, and though the snow was horribly soft we trudged along at a good swinging pace.

We had not gone far, however, before we came upon the *débris* of a huge avalanche which had completely obliterated our track. The ice-blocks, which had fallen from one of the hanging glaciers on the Tasman arête, were piled in wild confusion, and their angles being rounded off testified to the banging about they must have got in their descent. We had heard the roar of this avalanche, and we could not help congratulating ourselves on having stayed for the night where we did ; for had we had another hour's daylight we might have got thus far in our descent, and if not swept away by this avalanche, or several others of like dimensions which we passed in succession, we should have been so alarmed by feeling ourselves exposed to them, that we never would have stood our ground, and moving onward in the dark, would undoubtedly have fallen into a crevasse. A guide, who had once been my companion on a most delightful expedition in Switzerland, thus perished on the southern side of Mont Blanc ; and more

than once I thought of him when a night on Mount Cook became inevitable.

We scrambled over the avalanche heaps, crossed crevasses, and trudged on downwards through the deep snow for another hour. The surface of the glacier looked so different that we mistook the place where we had left the provisions, and coming to one huge avalanche we feared that it had swept the knapsack away. Our hearts sank at the thought, but as we gained the top of the avalanche heap we were quickly reassured. There it was all safe on the level below us, just where we had left it; ten minutes more—at 8.30—Kaufmann was unbuckling the straps, and we lost no time in discussing some cold duck and bread, both of which seemed excellent, though the latter was now twenty days old and our mouths were sore inside from sucking the snow. However, twenty-two hours without food would make anything seem good, and as we sat on our axe-heads we realised the fact that we had not once sat down for the same length of time.

Lest we should get stiff we made but a short halt, and feeling much refreshed, we shouldered our traps and were soon amongst the séracs. Here, again, avalanches had obliterated our track; the *débris* of one of these covered an area of at least 200 acres, and conveniently filled one large crevasse, which had caused us to make a detour the day before. In an hour we reached the Great Plateau. The weather now showed

signs of clearing up, and gleams of sunshine shot through openings in the clouds, calling the avalanches once more into renewed activity.

One grand fall took place from the Mount Tasman cliffs not far from us. A large piece of glacier cracked off with a loud report and slid, like a great ship being launched, amidst a quantity of smaller pieces, to the edge of the precipice ; then toppled over, coming down on the glacier below with a deafening crash. Just as some great roller from the ocean thundering upon the rocks shoots upwards in clouds of snow-white spray, so the ice-dust spouted upwards like the sea foam, and from its midst great pieces of ice flew to long distances, and, falling, furrowed up the snow on the surface of the glacier. The first crash gave place to a continuous rumble, and then, out from beneath the cloud of dust, the great, broken-up mass of the avalanche came on towards us with apparent slowness, though, from the way in which the ice-blocks danced and seethed on its surface, it was evident that distance alone made its motion seem slow ; nearly half a mile was traversed ere its energy was wholly expended.

An hour's tramp across the great level snow-field brought us to the domes of ice overhanging the lower spurs of the mountain. We tried to avoid this ridge by turning its shoulder above the Hochstetter Glacier, but meeting with séracs which formed a complete barrier, we were forced to follow our former route, and though having

to ascend once more was not an agreeable sensation, we soon gained the top of the ridge and looked out for our tracks, or a mark which we had made to guide us in our descent. All marks, however, were gone, and after making one wrong move, we finally discovered the way down the rocks and got on to the glacier at the spot from which we had admired the sunrise during our ascent. The snow on the glacier was as soft as flour; we sank into it waist deep, and as it was lying on very steep ice, the danger of our going down in an avalanche made it advisable to abandon our former route, and seek a safer line of descent close to some very remarkable isolated rocks which stood like sea-worn pillars out of the snow. We then made a short glissade, and at 1 P.M. reached the rocks where we had left our rugs.

A halt of half an hour gave us time for a comfortable meal, and the tea which we brewed seemed the most delicious that I had ever drunk. As our clothes were still wet, and rain fell in frequent showers, we delayed no longer than was necessary, but strapping up our wraps, resumed the descent. Tired as my men were they would allow me to carry nothing, but loaded themselves with the rugs, etc. I suggested tumbling the whole pack down a snow couloir which led to the bottom of the Hochstetter Glacier, but they argued that they would lose more time in picking up the bits than in carrying the pack down. The rocks were in many places so

loose and bad that we had to keep on the rope, and as we had time enough, we halted occasionally to rest. On the way down I secured another photograph of Mount Cook, from which the clouds cleared between the showers. As this would probably be our last opportunity, we collected a goodly supply of edelweiss; it was growing in the greatest profusion, and I selected some tufts which had gone to seed, in hopes of propagating it at home. Kaufmann made up a large bundle of it in his handkerchief, but, unfortunately, he hid it so safely between the boulders at our camp, lest the keas or wekas should interfere with it, that when we looked for it on the day of our departure it could not be found. The ridge seemed to get longer and longer as we descended, and as it would not do to be again benighted, we took off the rope, having had it on for thirty-six consecutive hours, and reached the Tasman Glacier at 6 P.M. Scrambling over the moraine, we reached the ice, and then went along at a good four miles per hour.

It was getting dusk as we reached the moraine near our camp, but at 7.30 we were at the tent and our long expedition of sixty-two hours was over. While Boss lit the fire and Kaufmann fetched water from the stream, I arranged the bedding in the tent, and then we gathered round the fire for a supper of warm porridge and soup. It seemed just the right sort of food for tired men, and Boss remarked, "If we sleep

to-night there is no harm done, if not, it will be a bad job." Half an hour afterwards we were ensconced in our sleeping bags in a state of most blissful, dreamless unconsciousness, and when I next awoke, the sun was shining brightly, and, looking at my watch, I found that it was nine o'clock in the morning, and high time for breakfast.

CHAPTER XVI.

“ But here I must break off, and bid farewell
To days, each offering some new sight, or fraught
With some untried adventure.”

WORDSWORTH.

Dolce far niente.—Descend to lower camp.—Provisions low.—Roped together we ford the Hooker.—Our horses arrive.—Back to civilisation.—Festivities at Christchurch.—Away to Otago.

THOUGH we were all lovers of active exercise, the pleasures of inaction were paramount on March the 4th. We cooked and ate our breakfast leisurely, and anointed our faces, scorched from the glare of the snow, with vaseline. Our hands, however, had suffered most from the long exposure, and were swollen and very tender; our barked knuckles never had had a chance of healing, and now began to show unmistakable signs of festering. Kaufmann and Boss had their own theories as to the best cure. Selecting charred twigs from the fire they applied the red end to the wounds, and, though they winced a little at the pain, I believe the result was all that could have been desired.

I adopted the milder method of cold water bandages with equal success.

Writing up my journal and filling in the sketches I had made, occupied the forenoon, and not until dinner was over did I put on my boots. Our camp seemed more agreeable than ever now that the unhappiness caused by our two unsuccessful efforts had been dissipated, and we felt loth to relinquish the other expeditions which we had planned. More than once that day, we talked over the delights of having the camp re-provisioned for a month, but there was no way of carrying out such an idea, except by descending to the lower camp, getting sheep from Birch Hill, and doing the hard swagging work all over again. Another difficulty in the way was, that my leave of absence from home was limited, and having lost six weeks in quarantine and its consequent delays, my time was now nearly at an end. Boss, too, had his hotels at Grindelwald to look after before the commencement of the Swiss season. The day on which I had appointed to meet the horses at the lower camp, was also drawing nigh, and if we were not there they might return, and we should have to bear the consequences of a broken engagement. All these considerations decided us to begin our journey down the glacier next day, and, if possible, to reach our lower camp the same night.

The expeditions we had to relinquish would have

been most interesting, as many important topographical questions could have been settled by them. One, the ascent of Mount Darwin, on the eastern side of the head of the great Tasman Glacier, promised an extensive view over the glacier system beyond. Failing this, we hoped, at all events, to have ascended the Hochstetter Dome,¹ which occupies a commanding position on the ridge where the great Tasman Glacier begins.

On this afternoon we could only see the peaks occasionally between showers, and the broken aspect of the weather was some satisfaction, at all events, now that we could not hope for any more *grandes courses*. As evening closed the wind commenced to blow in fierce gusts, so, putting an extra guy rope to the tent, we sought its shelter at an early hour. Rain soon came down in torrents; the blue lightning flashed from crag to crag, and the higher peaks resounded with deep-voiced thunder. About midnight there was

¹ Since writing the above, intelligence has reached me from New Zealand of Dr. von Lendenfeld's ascent of this mountain. He and his young wife, with three porters, pitched their fifth camp where my fifth camp had been. Some days later they bivouacked at the foot of the Malte Brun range, and from there in twelve hours, with one porter, reached the summit of the Hochstetter Dome. They met with immense crevasses, but were rewarded by a cloudless view, and secured most important trigonometrical observations and some photographs. He estimates the height of the Dome at 11,200 feet above the sea, and 500 feet above the saddle where the great Tasman Glacier begins. It seemed to be higher than Mount Darwin.

a change for the better, and we settled down to a few hours' quiet sleep. At four o'clock A.M. we were awake. Lighting the fire, we prepared breakfast, and as soon as dim twilight enabled us to distinguish objects on the ground, we began to strike our tent and pack up our camp. As we purposed, if possible, to reach our lower camp that day, no return journeys could be made, so Kaufmann made up a load for himself which must have weighed about eighty pounds, Boss carried another heavy pack, and I carried the same things as on the upward journey—less the cartridges, which we had used, and the methylated spirit tin, which we now threw away; we left a hatchet and a lantern and some of our garments which had been reduced to a state of rags, for the keas, to aid them in their study of anthropology.

As the sun rose we toiled along over the boulders. It was weary work, especially as our hands were tender and swollen, and it was impossible to get along without occasionally grasping the unsteady boulders. About mid-day we halted for dinner near to where we had made our third camp on our upward journey, and then traversed the only level half mile in the whole route. The way was now so familiar that we were able to avoid some of the difficulties which had beset us on the upward journey; and when we came to the densest patches of scrub, we followed what was now a comparatively well-beaten track. It rained on and off during the day, and as the hours wore on, our rests became frequent.

When lying on the moss-covered boulders in the midst of the scrub, birds warbled and twittered around us, filling the air with song; the little wrens, so like our own, hopped from stone to stone, and a robin, with a brown, instead of a red breast, would perch on a twig sparkling with drops from the last shower, and, peering at us with his little black eye, send forth his warbling notes to cheer us on our way. Birds, like blackbirds and thrushes, flitted amongst the birch trees, and made the whole copse as lively as a woodland glen at home.

We passed the margin of the Blue Lake and the site of the camp where we had weathered out the storm. Then we reached the little lakes in the terminal moraine, and about 6.30 we were down in the flat of the valley.

As our fresh provisions were at a low ebb we kept a bright look-out for game. Approaching the bridge we saw there some blue ducks. I shot one, which Boss secured, and wounded another, which scuttled away down the river; I ran to intercept it, and bent forward to catch it, but, forgetting that I had a knapsack on my shoulders, I overbalanced and went headlong into the water. It was shallow, so the wetting was of no consequence, but I knocked the skin once more off my unfortunate knuckles, and the duck made good its escape. At 7.30 P.M. we reached the camp, having performed the return journey (including numerous halts) in thirteen hours.

The 6th of March was a fine day, and basking in the sunshine was most delightful. We mixed up the remaining stock of flour and baked a few loaves of bread, and then prepared for ourselves as good a dinner as our camp could afford. Southerland arrived in time to share it with us; he had seen our fire the night before. The Hooker, he said, was particularly high, and, only that he was so anxious to know how we fared, nothing would have induced him to cross it. He told us that our horses had not yet arrived, but that if they did not turn up he would look after them without delay, and would see us with or without them next day. He was evidently anxious in his mind about the Hooker river, and I tried to induce him to stay with us for the night, and cross early in the morning when the river would be at its lowest. However, he could not be persuaded, but he promised to light a fire at Birch Hill if all were well. After he was gone we watched anxiously, but failed to see the wished-for signal. As we promised to be all ready and packed up by noon next day, we collected our possessions before retiring to rest. Rising early on the 7th, we spent some hours striking camp, and making up our bundles for the pack saddles. This done, we walked up the river with the gun, and shot two paradise ducks and a blue duck for our dinner; and while our meal was cooking we spied occasionally through the binocular, away over the shingle flats for any sign of Southerland

or of the team. Then we sat on our luggage, like emigrants at a wharf waiting for the vessel which is to bear them away. Then we climbed the hill side, and from amidst the clumps of tall flax scanned the blue distance, but all to no purpose. Sometimes the mirage made us think that we saw horses, and again the illusion would vanish. Boss was persuaded that the absence of Southerland could only be accounted for by his having met with an accident in the Hooker. I argued against this idea, but could in no way satisfactorily account for the failure of the signal the night before, and his not having returned to us by noon. Three o'clock came, and my own mind yielded to the forebodings of the others.

Inaction was most oppressive, so we re-pitched one of the tents, bundled all our things into it, and started for the Hooker, with the intention of wading across it if possible, and so reaching Birch Hill. We took with us forty yards of rope and our ice-axes, but the roar of the torrent rose higher and higher on the breeze, and when we reached its brink, we hesitated before trusting ourselves to its surging waters. We searched for the most favourable spot to cross, and selected a wide place where there was the best chance of finding an even depth all the way across; but finally came to the conclusion that we would not be justified in running the risk unless more sorely pressed than at present. The wind was coming down off the glaciers with a

chill, icy feel that made us shiver at the very thought of taking off our clothes. We therefore strolled back to camp, having determined that if no one arrived before 3 P.M. next day we would then attempt the passage. Our provisions were nearly at an end; only three or four cartridges remained, so a move would then be a matter of necessity. We opened out some bedding and, not in the very happiest frame of mind, went to sleep. Next day, March the 8th, was gloriously fine, though clouds hung about the higher peaks. We packed up our camp as we had done on the previous morning and, ascending the hill side, swept the distant shingle flats with the glass till our eyes grew dim.

We dined at twelve o'clock and at 2.30 we took up the ropes and axes and started for the Hooker. The river foamed along over its boulders as on the previous evening, its slate-blue ice water looking horribly cold; but we were in earnest this time, we *must* reach the farther shore. Taking off our clothes, we rolled them up tightly in our waterproofs, which we had brought with us for that purpose, and strapped them as high as possible on our shoulders. We wore our old worn-out boots, and as the wind was very cold we pulled on our jerseys. As I was the tallest, I undertook to lead the way. I was tied to Boss by twenty yards of the lighter rope, and between him and Kaufmann was our Alpine rope. Kaufmann, though as daring a mountaineer as ever cut a step in an ice

slope, had a profound horror of adventures by water, but he was a sure anchor, and had strong arms to haul us out if anything went wrong.

A few steps through shallow water, and I was in waist-deep. Leaning all my weight on the axe which I planted up stream, I formed a sort of tripod, the weight of my pack helping to keep me steady, and though the water rushed past so violently as to make it difficult for me to raise my feet from the ground with safety, I edged them along by degrees, and just as Boss entered the stream, I had gained a shallow near mid-channel. Though the water had been nowhere more than waist-deep, the spray spouting upwards from my axe and arms went completely over my head, almost blinding me, and filling my mouth with water.

I now paused till Boss got up to me, and Kaufmann held the rope tight so that it might not be caught by the current. The deepest water was still ahead, so I moved on cautiously, Boss standing and keeping the rope tight. So far I had worked upwards against the stream, but now, spite of all I could do to steady myself, on raising one foot a little to get over a boulder, I was spun round and went right under water. Boss gave me a judicious chuck of the rope, and by the greatest good luck I regained my footing. The forty yards were now paid out, so Kaufmann had to enter the river. On seeing him under way I changed my tactics and kept away down stream, then reaching a

large boulder on the shore, I took a half turn of the rope round it and all was safe.¹ Hand-over-hand my companions followed, and as quickly as possible we opened our packs and got into our clothes. I served out a peppermint lozenge soaked in camphor all round, which immediately induced the wished for re-action and made us feel all aglow.

The boots we had worn in fording the stream had now done their last service, so we placed them side by side on the shore, as a memento of our passage; and ascending the heap of water-worn boulders which formed the bank of the torrent, we prepared to tramp on to Birch Hill, now only five miles distant.

Before starting I took a glance round with my binocular, and to my unutterable disgust saw a team of horses, led by two horsemen, going along at a smart gallop over the flats beyond the river in the direction of our now deserted camp. There was no mistake about it; they must have forded the river lower down while we were in the water. There was no use in shouting, so we set fire to a patch of coarse grass about an acre in extent and then watched the horsemen through the glass. On they went for a few minutes:

¹ When the Maoris have to ford a swift torrent they enter the water close together in a line parallel to the flow of the current, one of the party thus breaking the force of the stream while the others support him. To gain greater steadiness they usually carry a log on their shoulders, which gives them greater weight and helps to keep them in line.

then they came to a halt: they moved on again and reached our camp, then, after a pause, a horseman leading another horse came in view returning towards us. For a quarter of an hour they were lost to sight in a depression of the ground, and when they again appeared we recognised Southerland on the leading horse, coming along at a canter. He was soon on the opposite bank of the river, and, after vainly trying to communicate with us by shouting, he came across with the led horse, on which he had strapped a few of our bundles. We quickly unloaded the horse, placed the packs in a pile on the boulders, and then, as it was too late to fetch down the camp that night, we settled that Boss should return to the camp with Southerland for the night, and that Kaufmann and I should walk on to Birch Hill. Southerland's delay was accounted for by the fact that on reaching Birch Hill, on the night on which he had parted from us, he found that the bullock team had arrived for the wool of his station; and this being one of the all-important events in a shepherd's life, he had to give all his attention to loading the waggons. He learned from the teamsters that our horses had arrived at Mount Cook sheep station, but that the driver was afraid to risk another passage of the Tasman and was not likely to come any farther. Southerland then crossed the Tasman with the bullock team and persuaded our brave Jehu to come along.

Thus the time had passed, and we all felt much relieved that our forebodings of accident were without foundation. He handed me a letter from Mrs. Burnett, of Mount Cook station, saying that they would have left for the lowlands ere our return, but she hoped that I would make any use I wished of their house.

Night was coming on apace, and as Kaufmann and I did not care to lose our way and get benighted in the swamps near Birch Hill, we started off at a brisk pace, while Southerland and Boss returned on the horses to camp. It was just dark when we reached the station. Kaufmann lit the fire, while I unearthed Southerland's bread, meat and eggs, and after supper and a good cup of tea we retired to our absent host's bedroom for the night.

In the morning, Kaufmann and I dodged about till eleven o'clock, when our friends arrived with the pack horses. They halted for an hour for breakfast, and then we started to ford the Tasman. We walked along over the shingle flats, waded through the river channels, and ran over the flats between, till we came to the main stream; when we had to unload the horses and put on half packs, which involved crossing and re-crossing several times, riding two horses and leading the others across. When the last pack horses were being led over, Kaufmann and I jumped up behind and clung on to the packs. At about 4 P.M. the last stream was forded and the last difficulty connected with Mount Cook was behind us.

On gaining Mount Cook station we found the house empty and the door ajar, but the sight of a fine quarter of mutton left for our use made us feel happy, and though an inch of blue mould stood upon some cream in a jug, the bread was in prime condition. The fire was quickly lighted and the mutton in the camp oven, and we adopted all the means at our command to make the time pass quickly, until it should be cooked. It is a great mistake under such circumstances to explore the interior of an oven too frequently: we unfortunately gave way to the temptation, and so prolonged our sufferings.

The meat was at last ready and in the act of being served up, when the door opened and in walked an elderly gentleman in a wideawake hat, black coat, neat spring-side boots, and, for luggage, an umbrella. We invited him to join us at dinner, and soon discovered that he was a citizen of the Great Republic, on a lecturing tour in New Zealand. We had seen, when in Dunedin, large placards, adorned with pictures of pterodactyles, great saurians, and all the uncanny creatures of Mesozoic times, announcing that Mr. Denton would deliver a course of lectures on the history of the earth, &c. &c. So *en passant* he had come to see what Nature herself had to say on the subject of glaciers and so be better able to describe them. From all I could learn he seemed to be doing good work, in placing before large audiences the general results of

geological and anthropological research, in a most popular form, and making known to people facts which they would never get at by reading.

After dinner we retired to the garden, and regaled ourselves with gooseberries and red currants with which the bushes were laden, and then went back to the house for tea. While it was preparing, two young Englishmen arrived on horseback from Lake Tekapo, so it seemed we were to have no lack of company.

Boss prepared a bed for our American friend in one of the rooms, and leaving the two young Englishmen to sleep on the table in the sitting-room of the cottage, we retired to the shearers' bunks, which were ranged around the inside of a small hut, like berths in a ship's cabin.

We invited Mr. Denton to join us at breakfast. He declined, saying that the green gooseberries would afford him an excellent meal. When I looked out in the morning he was enjoying his repast; he then went on up the hill-side to get a view of the glaciers. That he survived his breakfast and other perils of the undertaking, was proved by his kindly sending us tickets for his lectures at Christchurch, a week later, of which unfortunately I was unable to avail myself.

March 10th was a fine day: wreaths of white clouds hung about the glittering ridges of the higher peaks: Mount Cook for a while stood out in perfect clearness, to let us have a last look, and then the filmy vapours rose and we saw him no more.

The waggon sent up for us from Albury was larger and stronger than the one which had been lost in the Tasman; the team of four horses were now yoked to it, and we prepared to start down the valley. A hearty adieu all round, Southerland rode off on his way to his lonely home at Birch Hill, and taking our seats in the waggon we rattled over the shingle, and through the streams of the Jollie river and then over wide flats, towards Braemar sheep station.

Experience of the road enabled our driver to avoid many of the difficulties which had perplexed us on our upward journey. Instead of following our old track to the upper downs we continued on our way down the valley to Braemar, a station with an extensive run on which 80,000 sheep grazed.

When near the station we passed some rich grass land, dotted over with good-looking cattle, and passing through a gateway arrived at the station. We drew up at a wooden house where some surveyors were lodging, and as a matter of course we went in and had a feed. I fear that four hungry men made a good hole in their stock of "tucker," but they gave us all they had and tea *ad lib.* A vegetable garden and patch of tilled ground adjoined the house; beyond this stood the inevitable galvanized iron wool-shed; then the shepherd's house, and beyond, the brown rolling downs. In the other direction the wide flats of the Tasman river spread themselves away to the foot of the distant

hills, and the silvery sheen of lake Pukaki was visible to the southward.

Leaving the Tasman valley and Braemar behind us, we followed a newly made road over the downs towards Tekapo. On nearing the lake we passed an excursion party on their way to see Mount Cook from the Tasman valley, a couple of ladies and gentlemen riding on horse-back, others following in a carriage. Several parties had come up on a similar errand during our absence on the glaciers, so perhaps the time is not far distant when the now secluded valley shall rejoice in a "Grand Hotel Mount Cook," which ought to stand on the Birch Hill run, as it is a disappointment to many who go expecting to reach the glaciers, to be brought to a stand by the Tasman river.¹

In due time we reached the hotel at Tekapo and dined in company with the two young Englishmen who had also arrived from Mount Cook station.

Another gentleman was staying in the hotel, who proved to be a special correspondent from one of the colonial papers sent up to way-lay our party. The usual "interview" had of course to be borne, I trying to resist pumping, and he, being an agreeable companion, much more successfully using the handle.

Next morning, March 11th, after a swim in the lake and breakfast, we mounted our waggon and continued

¹ Von Lendenfeld was delayed a whole week before he could get across the Tasman, and then forded it at considerable risk.

our journey over the brown plains, through Burke's pass, down to the cultivated valley near Silver Stream, where we halted for dinner and were treated to some excellent trout caught close by. We rattled along the road at a fine pace to Fairlie creek, and arrived at Albury at 4 P.M. An hour's delay there enabled us to recover the spare gear we had left, and to convey it to the railway station. After vainly trying to settle amicably my account with the owner of the waggon and team, as he tried to "lay it on" very hard, I gave him my address, and told him to sue me for the amount as soon as he found it convenient.

At 8 P.M. our train reached Timaru, and we took up our quarters at the hotel.

As the 13th was Sunday and no trains ran in the colony on that day, we were able to enjoy a real day of rest, and I had the pleasure of going to church for the first time in New Zealand. It was Harvest Thanksgiving day, the church was prettily decorated with corn; while rosy apples, fine fat pears, and delicately tinted peaches peeped forth from the wreaths of green leaves and flowers.

There was an attentive congregation numbering several hundred, the hymns were well sung by the great mass of the congregation, led by a choir of men and boys; and an earnest and sensible discourse from the rector concluded a most refreshing service.

The weather was bright and warm, much like a

summer day at home, and the sea looked calm and blue. The outskirts of Timaru, through which I strolled after service, with a gentleman who invited me to his house for dinner, are still colonially untidy ; that is to say, villas have sprung up before the roads or fences were ready for them. This however is but a sign of vigorous life, and hedgerows can't be brought into existence as quickly as wooden houses.

Various gentlemen connected with the press attempted to interview me further, but I declined the honour. When they found that Boss would not flow as easily as they desired, a French-speaking gentleman was brought to bear upon Kaufmann.

He began by inquiring "What sort of mountain is Mount Cook?" to which K.'s one and only answer was, "Mount Cook is there still, and if you want to know what he is like, you can go and see."

After dinner I went to evening service, and then spent some pleasant hours with the rector.

Next morning we started by first train for Christchurch, as I wished to see Dr. von Haast and to compare notes with him, now that our expedition was over. It was also necessary to secure our passages in the next ship for Europe. On our way we diverted ourselves with the morning papers, which were overflowing with "The Ascent of Mount Cook." I had no doubt let out most of the interesting points ; but this was not enough, our luggage, &c. &c., was minutely described, even down to

the nails in my boots. On reaching the city of the plains, I received a letter from Dr. Haast saying that he was unfortunately absent at Auckland. This was a great disappointment, as to see him was my chief reason for returning to Christchurch. However, it all turned out for the best. I was now to see New Zealand from a new point of view.

I received a hospitable invitation to make Ilam my home during our stay in Christchurch. It had a true home feeling about it, and being at home after a five months' absence from my own, was very delightful.

A drive of about four miles through hedgerows and snug farms, brought us to the entrance gate. An avenue overshadowed by tall trees and bordered by pretty shrubs, amidst which the cabbage-trees raised their heads, and grew much more luxuriantly than those we had seen on the bleak mountain sides, led to the house. In front was a lawn of velvet-like grass, sloping down to a crystal-clear stream which widened out into a deep pool, where lusty trout darted about or poised themselves under the shadow of the drooping leaves of flax. A rustic bridge, a bathing arbour under the weeping willows, and then a forest of gum-trees, English pines and wellingtonias interspersed. Beyond the stream and bridge, an open glade with closely mown grass was laid out for tennis. The opening through the trees then let the eye wander away and away over the cornfields, over the Canterbury

plains, till all faded into silvery haze, above which the far distant purple hills rose against the sky.

Hidden away by tall forest growth the fruit garden was a sight worth seeing. Such peaches! There is no need in New Zealand to train peach-trees against walls, and put glass over them. Here they all grew as standard trees, like the apple and pear trees, which were mixed up with them, and which were also loaded with fruit.

The house is quite in keeping with the grounds. What kind of architecture? you may ask. I don't know, but we will call it "Elizabetho-Colonial." That is to say, it is all gables, tall chimneys and verandahs. It has grown like many an old place at home, by being added to from time to time, so that though it is colonial, it has its history.

Entering through the verandah we found ourselves in a large square hall lighted from above, with a wide staircase leading up to a gallery off which the bedrooms opened. The wainscoting is all of native wood, of which there are many beautiful and durable varieties. The drawing-room is everything that the most critical æsthete could desire, and in a shady recess stands a fine organ, whose sweet tones delighted Kaufmann's ears when he was tired of eating peaches.

The four days at Christchurch passed quickly; it would have been very pleasant to have stayed longer and have accepted all the hospitable invitations which I received;

but I was glad at all events to have had the pleasure of meeting Bishop Harper, and his Excellency Sir Arthur Gordon who was then living near Christchurch.

One evening we were entertained at a public dinner given in our honour by the Christchurch Athletic Club, at Coker's Hotel. Mr. Corfe, the head master of Christ's College, the "Eton" of New Zealand, being president, occupied the chair, and I sat between him and Archdeacon Hales of Tasmania; Boss and Kaufmann were well taken care of by other members of the club. There were present several gentlemen whose names had become familiar to me in my studies about New Zealand, and whose acquaintance I now had the pleasure of making. After the more important considerations of a dinner were disposed of, and the Queen's health drunk, followed by "Prosperity to New Zealand," our healths were proposed and carried with a "three times three." I responded for myself and Kaufmann only, saying that Boss was well able to speak for himself.

I took the opportunity of impressing upon the company the importance of founding a New Zealand alpine club, and of devoting the subscriptions to building a few huts in certain centres of their Southern Alps.

A hut where our fifth camp had been pitched would be a great boon to future explorers, as from it a series of expeditions might be made which for interest and variety would equal, if not surpass, any set of courses in the Swiss mountains. A hut on or near the Godley

glacier, whose waters fall into Lake Tekapo, would be another convenient base for the exploration of Mount Tyndall and the peaks of that district. This is the way in which European alpine clubs assist their members and others, in enjoying what is the noblest sport in the world.

Boss then spoke, and though he began by saying that he would much rather go up Mount Cook again than make a speech, he gracefully expressed his appreciation of the hospitality we had met with ever since we had landed in New Zealand.

A number of gentlemen spoke afterwards, and as several questions arose concerning mountaineering in general, and Mount Cook in particular, I answered them so far as I was able; then a song composed for the occasion to the air of "John Peel" was sung, and the proceedings terminated.

It was late when Boss and Kaufmann got back to the hotel where they slept; so not wishing to disturb the household they proceeded to enter by a window which was open at the side of the building. Boss got in all right, but just as Kaufmann was following, a most watchful policeman pounced upon him.

On Boss explaining matters Kaufmann was released and the policeman went on his way, his hopes of promotion, for detecting a burglary, all rudely dashed to the ground.

When walking to the club next day a man came up to me with a letter and said, "I think, sir, you are

Mr. Green, for I saw the print of the nails of your boots in the mud, and I had read of them in the paper." I said he was right, whereupon with profuse apologies he handed me the letter, which turned out to be a summons from the owner of the waggon. The summons was pinned to the bill, which had increased from what was first asked. I telegraphed at once to a friend in Timaru offering to settle it for half the amount, which was thankfully accepted, and so the matter ended.

Since my arrival in Christchurch Mr. Hodgkins of Dunedin had telegraphed to me to join him on an excursion into the mountains of Otago; so finding that there was yet a week before the steamer would sail for Melbourne, I settled to join him on the 17th. Meanwhile I put in my time well in visiting with Professor Hutton the Botanic Gardens, and learning something about the flora of Canterbury from Mr. Armstrong the superintendent. A forenoon with the Rector of Riccarton let me see something of parochial school life. There was a nice school-house. The children were under good discipline, amply provided with school requisites, and their gymnastic drill which I witnessed was well calculated to develop their physical powers and prevent any precocious youth from becoming like "Tom Toddy, all head and no body." The parish church, St. Peter's, close to, and almost standing upon, the rectory grounds, is an interesting and picturesque building. In a colony

history goes on apace, and as in some of our old ecclesiastical buildings at home, centuries are represented by the additions and alterations which have been made to the original edifice ; so here the decades of the Church's history are chronicled. What is now but a little wooden transept with a tiny spire was the original church : as the colony grew, a large wooden building with a spire was added, and now a still larger stone chancel, with a pretty stained-glass window, is the beginning of what will be the future church. Inside it reminded me of Borgund church in Norway. Something of sentiment at any rate will be lost when these quaint peculiarities shall be swept away to give place to the new and capacious church. The cathedral at Christchurch is a fine edifice, and forms a centre from which all the streets called after the various Bishoprics in the old country diverge. There is Winchester Street, Hereford and York Streets, and all the rest. Ireland is represented by Armagh Street, Tuam Street, &c., &c. The tall spire is a conspicuous object and is visible from great distances over the Canterbury plains ; it is, however, threatened by the earthquakes which, though slight, are of frequent occurrence, and quite lately a piece of masonry fell from it during a smart shock. I attended a week-day service at the cathedral ; there was a fair congregation and the singing was good.

Thus the days passed rapidly, and at 8.15 on the

morning of March 17th we took our seats in a train for the south. A number of gentlemen belonging to the Christchurch Athletic Club, and other of our friends, assembled on the platform to see us off, and as the train moved out of the station they gave us three hearty cheers.

Once more we passed the gardens and cultivated suburbs of Christchurch ; once more we crossed the wide stony beds of the Ashburton and Rakaia ; once more we rattled over the flat Canterbury plains, with the distant rampart of purple mountains and snowy peaks bounding the western horizon, and after a short halt at Timaru, where we had dinner, we journeyed on towards Dunedin.

We had not until now travelled over this southern portion of the line, and so had much to interest us as we passed.

The great flat plains were no longer to be seen, but cultivated farms in the hollows and on the slopes of the low rounded hills were frequent. At Omaru we approached the coast and saw a number of large ships in the roads. Both Omaru and Timaru are bad harbours, there being in fact no natural harbour at all, but the great harbour works in process of construction will no doubt end in making them safe for the large ships, which now have to anchor in the open bay and which have to "cut and run" when a "southern burster" breaks over the coast. The large ship which we had seen ashore at Timaru was

an illustration of the dangerous character of the eastern coast. She however ended her life in a very simple manner ; she had been riding to a single anchor with a light inshore breeze blowing ; when by some mismanagement a shackle in her chain opened and she drifted slowly towards shore without those on board knowing that anything was wrong. She was seen to be drifting for the shore and a tug went off, but before an anchor could bite or a hawser be passed to the tug, her stern touched the ground ; she then swung round broadside to the shore, and the swell of the Pacific which breaks in heavy rollers on the beach soon decided her fate. These harbours are, however, great centres for trade, and as the breakwaters advance the dangers to shipping are removed.

At one place which we passed, horse races were going on. The grand stand and crowds of spectators were visible from the train. As far as we could see the fields were rich in harvest produce and the farmers looked as prosperous as in the most favoured nation of the old world.

The homes of Irish farmers were often conspicuous amongst the others by the mud walls and thatched roofs, exactly similar to the homes of their fathers, only that they looked cleaner, and the whitewash and neatness of the surroundings were pleasant to see. There is some splendid natural scenery on the southern portion the line, where, after passing pretty sandy bays

with outlying rocky islets fringed with white foam, the line by steep gradients ascends the Blueskin cliffs. The engine with much puffing makes the ascent at a pace so slow that we might have stepped out and walked beside the train ; we had ample time to look out of the windows, down the vertical precipices along the face of which the line has been engineered, to the blue sea hundreds of feet beneath. On reaching the culminating point we immediately commenced the descent and spun along down the incline through forests dense with tangled creepers and adorned with grand tree-ferns. Then we swept round a wide shallow bay, and ascending the hills near Port Chalmers at 7.35 P.M. drew up at the railway station of Dunedin, where our friends were waiting on the platform to receive us.

I dined with Mr. Hodgkins, and after discussing the possibility of getting to Mount Earnslaw and back in time for the *Ringarooma*, advertised to sail from Port Chalmers for Melbourne on the 22nd, I retired for the night to the house of one of my old friends of the *Garonne*.

CHAPTER XVII.

“ Full many a glorious morning have I seen
Flatter the mountain tops with sovereign eye,
Kissing with golden face the meadows green,
Gilding pale streams with heavenly alchemy ;
Anon permit the basest clouds to ride
With ugly rack on his celestial face,
And from the forlorn world his visage hide,
Stealing unseen to west with this disgrace.”

SHAKESPEARE.

A journey through Otago.—Wheat growing.—Lake Wakatipu.—A gold digger.—Attempt on Mount Earnslaw.—Heigh ho ! the wind and the rain.—Farewell to New Zealand.

AT 7 A.M. on the morning of the 18th our party assembled on the platform of the railway station ; we brought all our baggage with us, and taking our seats in the long saloon cars were once more rattling away to the southward.

A short distance out of Dunedin our track lay through a long winding valley which is one of the busiest districts in the colony ; here coal is worked, tall chimneys give out their clouds of smoke, and various

manufactories lend an old-world aspect to the scene. One new building which we passed with large pieces of machinery lying about as yet unfixed, was destined to be a freezing establishment, a depôt from which cargoes of frozen meat could be forwarded to the ships prepared for its transport to England. Though the harvest was now well over in Canterbury it was still going on here, and every mechanical contrivance was at work gathering in a rich produce.

For some distance our course was south-west; we crossed the fine stream of the Clutha, the largest river in the island, with a drainage area of over 8,000 square miles.¹ Unlike the clear mountain torrents which cross the stony Canterbury plains, the Clutha flows steadily and swiftly, with the smooth surface of deep water in a turbid stream between banks cut out of clay and rich loam. Occasionally it overflows its banks, and though this is inconvenient in many ways, yet it no doubt, like the Nile, deposits a valuable top-dressing wherever its waters reach. At Clinton station every one ran to the refreshment-room for dinner, which was all ready and well served; after doing full justice to it and continuing our course in a westerly direction through a country dotted with homesteads, townships, and rich corn-fields, we reached Gore junction, where we changed carriages and entered upon the Waimea plains.

¹ The drainage area of the Thames in England is only 5,162 square miles.

For forty miles we now ran over land as flat as the surface of the sea, from which the mountains bounding it to the northward rose as if from a beach, and thus suggested its origin.

The Southland plains, of which these are a continuation, have evidently been formed as a shore deposit in a manner similar to the great pampas of South America; and an elevation of the land has raised them, and the hills which once were islands and headlands to a shallow bay, to a height of about 600 feet above their former level. The woods which once adorned the margins of the landlocked estuary now form beds of lignite, and the silt of ancient rivers is now the surface on which the grass of centuries has formed the mould that promises a rich return to the farmer.

The whole of this district is at present in the hands of a large land company, and the railway by which we travelled is their property; far the greater part is as yet only used as a sheep-run, but patches here and there have been broken up for cultivation. Crossing the Waimea levels we came up a rather steep gradient through a long defile into the plains of the Five Rivers; a rich alluvial tract of over a hundred thousand acres in extent, and presenting one of the finest examples of what may be done by breaking up the virgin soil.

This plain was some time since purchased by two Australian gentlemen for £1 per acre; they fenced off

a paddock of 1,200 acres, ploughed it up and sowed wheat. For several seasons they have taken this crop off the same ground, and last year the produce was fifty bushels to the acre. As the train stopped in the middle of this great corn-field to set down the manager of the estate, we had the pleasure of witnessing the harvest operations which were now going on. Eleven reaping and binding machines were at work, cutting the corn and tumbling over sheaf after sheaf ready bound. Teams of horses were drawing heavy loads of sheaves to the part of the field where stacks were being built, while other teams were at work ploughing up the stubbles for the next crop.

Our western horizon was bounded by the Tackitimo mountains, and to the northward patches of snow became apparent on the mountain peaks, which now began to assume grander forms. Railway travelling disposes of distance at a rapid rate, and ere we had time to get over the feelings of wonder called forth by the great harvest operations we had witnessed, our train had shot through the mountain gorge of the Dome pass, into a well cultivated mountain-girt valley, watered by the head streams of the Mataura.

The whistle echoed as I have heard it do many a time near Martigny, and then we pulled up for five minutes at Athol station.

The harvest in the valley had scarcely commenced, the proximity of the mountains making the season later.

In many fields we saw flocks of swamp hens pulling down the ears of wheat for their evening meal. The way in which these birds have adapted themselves to the conditions of cultivated existence speaks much for their sagacity. At first they were easily shot down or hunted off. Now they have learned to dodge the farmer, and place sentries while they are devouring the good food which man has brought within their reach, and before it is possible to get within range they are safe back in their swamp. These swamps became more frequent as the valley grew wilder; and as the train passed by, bitterns rose frequently, and flew lazily over the stagnant pools to islets covered with flax and pampas grass.¹

The evening gloom filled the valley, the mountains were for a while bathed in the golden light of a lovely sunset; as we rattled over a wide bank of ancient moraine it became dark, but our railway journey was now at an end. Pausing for a few moments at Kingston station we slowly ran down the incline to the wharf.

Lake Wakatipu lay shrouded in night, the dark forms of the mountains rose high into the silent sky, echoing every sound from their rocky walls. Wakatipu (the "u" is omitted in pronunciation) is a lake of over sixty miles in length, fed by numerous rivers whose sources are generally to be found in snow-fields

¹ *Arundo conspicua*.

or glaciers; it possesses no visible outlet at all in proportion to the streams which feed it. But as moraine accumulations are easily permeated by water, though their upper portion may look quite as compact as other land surfaces, no doubt much of the water from Lake Wakatipu finds its way to the Mataura beneath the moraine at Kingston.

Like the Sounds of the west coast the lake is immensely deep, its surface being about 1,000 feet above, while its bottom is 400 feet below, the level of the sea. Formerly untenanted by the finny tribes, it now abounds with English trout; one fine specimen which I saw, about an hour after it was taken, weighed no less than fifteen pounds.¹ Our baggage was transferred from the train to the *Mountaineer*, which lay beside the wharf with steam up ready to start. It seemed strange to find such a comfortable boat far away from the sea on this inland lake, in an island which but a few years since was an undiscovered country. This paddle steamer and two smaller screw boats which also trade on the lake were of course brought up in pieces by rail and built here.

Time was up; a blast of the whistle resounded wildly from the mountain-sides. The paddles commenced to revolve and with side lights, &c., all prepared to warn

¹ Trout were first put into Lake Wakatipu in 1870. The ova came from Tasmania, into which colony trout had been introduced from the Wye and other English rivers.

any benighted voyager against a breach of the rule of the road, we started for Queenstown. No sooner were we under weigh than the bell rang for supper, and going down to the bright little cabin, we were soon doing justice to an excellent meal, consisting of several courses well served and well cooked.

As the night was too dark to see anything of the scenery, I took the opportunity of writing up my notes, and at 10.30 we reached Queenstown. Having no time to lose, H. set to work at once beating up his friends and acquaintances in order to secure the use of one of the small steamers to take us to the head of the lake. First the owner was interviewed ; he referred us to the skipper, who turned out to be part proprietor. This functionary was in bed, and on being shouted for in various keys he at last chose to wake, but was indignant at being spoken to on a business question at that hour of the night. It was at first impossible to get him to listen to reason, but at last, as his ideas became clearer, he said he would undertake the job if we paid him an exorbitant sum. We had not any idea of giving him the amount he named, but did not at once startle him by saying so ; only suggested that he should get steam up. Time was passing, and he was still impracticable until a bright idea struck him—to send us off to the engineer, whom he hoped would also object. We fortunately found him the most amenable individual of the Steam Packet Company, and finally it was arranged, that as

navigation in the dark was not to be thought of, steam would be got up early and the craft would be ready at dawn of day. It was now near midnight, but still another piece of business had to be disposed of. My men and myself had our ice-axes, but if all went well H. hoped to come with us up the glaciers of Mount Earnslaw, and he was quite unprovided with anything in the way of an alpenstock. As we considered he *must* have something with a spike in it, Boss undertook to knock up a smith, and in some way extemporise the required implement. The smith was, as all other decent people were at that hour, in bed, but with an eye to business he agreed to get up on payment of five shillings, and soon after, Boss arrived with a truly terrible and effective-looking implement with a spike about six inches long and an inch thick. There being nothing more to do in the way of expediting the arrangements we retired to rest in Eichardt's Hotel. A number of visitors were staying there, this being the season at Wakatipu, and the weather of late had been so fine that many were induced to take their summer holiday trip to this lovely district.

As we turned in for the night we heard the rain coming down in a steady pour. Not very encouraging for the morrow. We had expected a break as the dark masses of cloud had looked threatening all the evening, but I comforted myself with reflecting over many a

delightful day in the high Alps which had commenced with dismal fog and rain. I seemed to have hardly fallen asleep when I was roused by the blowing of the steamer's whistle, and by Boss coming into my room saying that all was ready for a start. The morning was very dark, heavy banks of fog lay on the surface of the lake, and the rain fell in a thick drizzle. Our baggage, all of which we had brought with us, not knowing exactly what we might require, was piled on the steamer's deck beneath a large oil-cloth, in which pools of rain had already formed, and as a cold raw grey morning dawned, and objects became more visible, we started on our way up the lake at 6 A.M. As the sun gained power the mists rose in long wreaths round the mountain-sides; the splintered crags of the great wall of mountains known as the Remarkables showed themselves against patches of clear blue sky, on the opposite side of the lake; and rounding an elbow, the head of the lake came in sight with its grand combination of forest-clad headlands and icy peaks:—

“ And thro’ the golden valleys winding streams
 Rippled in glancing silver, and above,
 The blue hills rose, and over all a peak
 White : awful with a constant fleece of cloud,
 Veiling its summit, towered.”

The white glaciers of Mount Earnslaw shone through the mists, now and then we could distinguish one of the twin peaks of its summit, and bright gleams of sunshine

danced on the surface of the lake, giving glorious effects of sunlight and shadow, and filling us with the brightest hopes.

Wakatipu is amazingly beautiful; the only lake in Europe which can surpass it is Lucerne, but to see no more of Wakatipu than what can be seen by a trip to Queenstown and back is to see Lucerne and omit the Bay of Uri.

The gold-fields near Cromwell, Arrowtown, and other places in the district, brought Queenstown into being, and though the gold-fields of Otago are not what they once were, Queenstown will no doubt continue its existence, and as the population of the surrounding district increases, take a new start ahead as the centre of an important rural province.

The number of tourists annually visiting Queenstown is considerable, the steam service with Kingston being kept up daily; and from Queenstown coaches run to Cromwell, within easy reach of Lake Wanaka, on which there now plies a screw steamer.

The hotel proprietors at Queenstown are not anxious to open up the upper branch of the lake which I have already said is far the most beautiful. They tell you, if you want to see the most lovely view in the district, you must go up Ben Lomond—Ben Lomond is *the* thing to do. Ben Lomond is their particular mountain, it is about 6,000 feet high, and above all, it can be ascended from Eichardt's Hotel.

Steamers run regularly from Queenstown twice each week to Glenorchy and Kinloch, and either of these places, at both of which are comfortable hotels, is the true centre for studying the charms of Wakatipu. To Glenorchy we were now shaping our course, and passing a long, glacier-rounded, shrub-covered island, we reached the wharf at 10 A.M., and stepping on shore received a hearty greeting from Mr. Birley, the host of the inn.

Mr. Butement, a large run-holder, in fact the owner of Mount Earnslaw, came with us from Queenstown in order to help us in our undertaking, and his house and the inn form the nucleus of what may be at some future time the township of Glenorchy.

The weather again looked threatening, but we explained to Birley that we had no time to lose and that we wanted horses as soon as possible to take us to Earnslaw, while Mr. Butement sent off for one of his shepherds to act as our guide up the lower spurs. A short council of war resulted in our deciding to ascend the valley of the Rees—which is one of three rivers entering the head of the lake—as far as the nearest spur of Mount Earnslaw, ascend the spur that evening, bivouac as high on it as possible, and on the morrow make an early start for the summit.

Mr. Birley suggested the alternative route of following the Rees upwards to near its source, a distance of twenty-five miles, and from a camp there to attempt

the ascent. As we had no good map and had no time for preliminary exploration, we had to trust to the opinions of our friends on these points, and the first plan was adopted. I must say I did not feel very sanguine as to the result, as, setting aside the threatening aspect of the weather, the expedition involved a very long journey ere the glaciers could be touched. I was quite satisfied, however, to make the best fight possible, and at all events to gain some knowledge of the district.

The summit of Mount Earnslaw, being fifteen miles distant from the head of the lake, subtends but a small angle when viewed from Glenorchy, but the angle is slightly greater than that subtended by the Dent du Midi at Montreux, a view familiar to many of my readers; and Earnslaw being clothed with glaciers, presents a far grander aspect.

The mountains of 7,000 feet which rise at the back of Kinloch are not flanked by the precipices which add grandeur to Lucerne, but viewed across the lake from Glenorchy they subtend angles of 15° , and this being about the angular measurement of the Uri Rothstock, from the point near Tell's Platte in the Bay of Uri, from which place the best view of it can be obtained, will give the critical reader some definite data upon which to form a conception of the scenery I have attempted to describe. Photographs of mountain scenery, taken with an ordinary "landscape" lens are never satisfactory

when the vertical angles are small. The atmospheric perspective loses itself in the clearness of the mountain air, and the distance is dwarfed. The camera has therefore never done justice to Earnslaw as seen from Lake Wakatipu, but its pure white peaks, and the group of mountains near to it, form a combination not easily to be effaced from the memory of the artist or mountaineer.

If the reader can imagine a party starting from near the lake of Geneva for the ascent of the Dent du Midi, at a time previous to the existence of any roads or bridges in the Rhone valley, some idea may be formed of our present undertaking.

It was 10.30 A.M. when we arrived at Glenorchy, but as the horses were not on the spot we had to wait about an hour till they were found, and we put in the time well by disposing of a good meal prepared for us by Mrs. Birley.

Provisions had then to be packed, and by the time all was ready Mr. T. appeared with the horses and a two-wheeled dray provided with a canvas tilt and drawn by two horses, tandem.

We placed a selection of our camp equipments in the dray with the provisions and pack-saddles for the horses, and as all seemed in working order we started with T. and the dray, leaving Mr. H. and Dr. S. to follow with young Birley on the riding horses.

The rain had come on again, so at T.'s suggestion Kaufmann, Boss and I got into the dray. He taking his seat in front, energetically wielded his heavy stock whip with loud crackings, and an occasional clip to the horses, which caused them to start ahead with a sudden spring, sending us all head over heels amongst provisions and pack-saddles, &c., and sometimes, when the horses swerved aside into a great clump of flax, nearly capsizing the whole concern. Once or twice an upset seemed inevitable, and though we were sheltered from the rain beneath our canvas canopy, our drive was not calculated to spare our strength as we had hoped, as the exertion of walking the whole distance would have been much less than trying to hold on in the dray. However, T. did get the horses along, and I doubt whether we could have got over the ground as fast by walking.

The road, which is only in process of construction, ended about 500 yards from the inn, and then a variety of cattle tracks offered themselves, leading often through clumps of flax which here grew luxuriantly to a height of ten or twelve feet. Groves of cabbage trees were frequent, giving a most typical New Zealand aspect to the scene, and the tracks sometimes lost themselves in soft black peat or in some dry torrent bed, where an exercise of judgment was always necessary in choosing a practicable crossing.

T. was so anxious to do justice to his district that,

fearing lest his usual eloquence would fail in describing to us its wonders, he had before starting primed himself with a little whisky. His conversational powers thus evoked, for some time found employment in cursing and swearing at the horses, but this proving monotonous, he changed his position, and sitting round with his face to the dray and his back to the horses, related to us his personal history, and gave us the opportunity of studying a life, interesting in itself, but sad when compared with what it might have been.

He was one of a class occasionally met with in the colonies. A man who had about him many a trace of early culture and good breeding, highly connected according to his own account, and I have no reason to doubt the main points of his story.

Possessed of an iron constitution which still stands to him, and a love of adventure for which in his university career he could find no scope, he left home when the great rush took place for California. There he worked as a digger through the wildest scenes of that wild time; then he followed the tide to Ballarat and Bendigo, and as the first rush there with all its free life subsided into steady work, he sought the new fields of New Zealand, and now at last he is settled on a little claim which he works near the inn at Glenorchy. The old fires of the wild spirit are being slaked down, T. is getting advanced in life; while life still stands to him I hope his struggle towards reformation may

succeed, and that from the wreck a remnant may be saved.

Having got it into his head that I would surely write a book he expressed his regret that I could not spend a fortnight with him, as he could give me "what would fill two volumes."

We urged him to drive the horses; but it was all right, he said "they knew the way;" to us there seemed to be no "way," and being tumbled about over clumps of *Phormium tenax* had reduced every square inch of our bodies to a state of jelly.

He would tell us stories. They would help my book, he said. All I can say is that the mildest of his "stories" would eclipse the *Police News* and all the popular novels of the day; but as all ten commandments were broken in each adventure of his life, there was but little of the variety which one finds in the writings prepared for the entertainment of the young people of the nineteenth century: authors generally preferring to describe the delights of infringing a few of the highest moral principles only in each work. It was impossible always to distinguish the true from the false, as many of his stories had probably become true, to him, by telling them over and over again. Omitting then the ejaculations with which every sentence was rounded off, and reading between the lines, he presented us with as wierd a picture of life as one would wish to contemplate. Kaufmann, being innocent of

the English language, lost most of the recitation, but Boss kindly kept up a running translation of the choicest portions for his benefit.

The horses, having now become utterly regardless of tracks, pulled us along over every hummock, endangering our limbs; even T. was occasionally pitched off on his back into the flax. Our object being to journey up the valley of the Rees, and that object being so far accomplished in safety, we could not grumble; but now the Rees had to be forded, and remembering our adventures in the Tasman I hesitated before trusting ourselves to T.'s guidance through the shoals and eddies of the swollen torrent on the bank of which we were now brought to a stand. We looked out for our friends on horseback, but nowhere could they be seen. T. insisted on getting some whisky to "*steady*" himself, as he said. However, we had provided for this inevitable request by removing the cork and leaving the bottle, which he had brought, in an inverted position at the bottom of the waggon. Nothing could now be done but to bemoan the "sad accident!"

The bank of the river was a vertical step down of three feet to the surface of the water; so we would not hear of his attempting to drive over it. We could see no ford. Events had reached the point when we must ourselves assume control. At this moment, on the other side of the river about a mile distant, we saw

three horsemen, and one riding at full gallop towards us we soon recognised as young Birley. He arrived just in time, and taking possession of the reins he conducted us over a long tract of gravel, and then entering the torrent we commenced to cross river channels alternating for about half a mile with banks of gravel. Old T., mounted on the spare horse, now dashed wildly through the river; he sank in holes till the saddle was covered and then tore along over the shallows in a cloud of spray. All day he had been exposed to the rain with no more clothing than a hat, a shirt, trousers, and high boots, with a handkerchief tied round his neck. On reaching our friends he paused a moment, then into the river again and back to us; blowing off his steam as we suggested.

This was an exceptional day, however, and a man must not be judged at his worst.

A short drive further and we reached a shepherd's hut on a slight swell of ground overlooking Diamond Lake, a most lovely sheet of water lying embosomed between the forest-clad slopes of Earnslaw on one side, and Mount Alfred on the other.

Beyond this our dray could not go, so a halt was called, and as it was still teeming rain, the wind blowing in fierce squalls, and thunder crashing round the higher peaks, we did not see our way towards starting for a bivouac on the higher ridges in defiance of weather which could not possibly be more unfavour-

able. It was now 3.30 P.M. and, as there seemed no promise of improvement, we determined to take shelter in the shepherd's hut for the night, and set to work at once to prepare dinner.

We sat down a large party, as, besides Mr. T., who was now to take back the spare horses, we had young Birley, Mr. Frazer, a shepherd of Mr. Butement's, another young shepherd, and our own party. As Mr. Frazer said he could pilot us up to the top of the lower spurs in the dark, we determined to rise at 2 A.M. and, if the weather permitted, to ascend as far as possible in a long day. A slight clear about sunset gave us some pretty views over Diamond Lake, but it again settled for thunder, storm and rain as night closed in, and we had nothing to do but content ourselves indoors, listening to stories of shepherding. When the heavy winter snows fall on hills around, the old sheep seem to know the dangers and strike down for lower levels, but the younger sheep are often caught and whole mobs of them lost, or only saved by great exertions on the part of their guardians, who go through much hardship and peril in the fulfilment of their duty. There are 40,000 sheep on the Earnslaw run, but "mustering" is considered to have been carried out successfully if 35,000 are brought in for shearing.

The hut which we had taken possession of for the night was, like others erected for the same purpose, built

of corrugated galvanized iron, hardly any timber being used in its construction. These huts are, of course, very hot in summer, equally cold in winter, and the rain, now falling in torrents, made such a noise as almost to drown the crashes of the thunder. The house was simply an overgrown tin cannister, divided into three compartments by wooden partitions. Dr. S. and I shared one bed, H. occupied the other, and the rest of our party bivouacked as best they could on the table and floor. Two o'clock quickly came, and looking out into the night we saw stars shining over Mount Earnslaw, and though heavy banks of clouds lay low to the westward all the rest of the sky was clear. Losing no time, we drank a cup of tea and turned out into the sharp night air.

A short walk in Indian file, Frazer leading, brought us to the slope of the mountain spur. We then worked up the steep slippery grass, wet with the recent rain; and, having to steady ourselves with our hands, we often caught a clump of sword-grass by mistake and so filled our fingers with thorns.

After two hours we sat down for a short rest; and reading my aneroid by the light of a match, I found we had come up 2,000 feet. We now turned round a shoulder to the left and came into view of Earnslaw, its summit standing out clear against the starlit sky, its snows just faintly illumined by the first rays of dawn. Deep down in the gorge before us its great

glacier lost itself to view in the gloom of night, but the sound of the torrent was distinctly audible, its roar now swelling, now dying away, with the rise and fall of the gentle breeze.

To gain 2,000 feet in two hours was most satisfactory; at that rate we should be as high as the top of Earnslaw by 11 A.M. But now the distance of Mount Earnslaw from where we stood assumed its just proportions; to the nearest point of its glaciers, was, as a bird flies, at least six miles, and could only be reached by following the long uneven ridge which swept round to it in a wide curve.

The trough-shaped ravine before us was more Swiss-like than any valley we had seen in New Zealand: the icy slopes of Earnslaw towered at its further end; its sides were clothed with fine forests of black and white birch, and the glacier torrent in its bottom found an exit towards Diamond Lake through a deep cleft near to which we had commenced our ascent. We worked on towards the ridge on our right. The crimson glow of the eastern sky had now struck the snows and for a moment made them glow with a lovely rose colour, but at the same time wreaths of mists rising in the westward looked ominous in the lurid light, and ere the golden morn paled into clear sunlight, the clouds drifted in swirling wreaths round the summit and hid it from our view. Black masses of vapour piled themselves up from

behind, a chill wind began to blow in heavy gusts, and it became only too evident that a snowstorm was impending. On gaining the ridge we followed it onwards and slightly upwards for several hours, losing often as much elevation as we gained by having to descend into deep hollows.

As yet the sky to the northward and eastward was clear, and the view over the mountain peaks towards Mount Aspiring was very fine. Immediately at our feet the ridge fell away in precipices to the Rees river, which all but monopolized the narrow bottom of the deep defile over 2,000 feet below us; the only signs of human life being at one spot where some men had conducted a watercourse along the opposite hill-side, towards a gold-working in a quartz reef, which was faintly visible in the depths below.

Snow was now falling on the western spur of Mount Earnslaw, and a freezing wind made us glad of any shelter afforded by the rocks as we worked along. At 9 A.M. we halted at a spring for some refreshment, and had to break the freshly-formed ice ere we could get water to drink. For an hour more we stemmed the showers of sleet and snow, and then took shelter under a rock to give the weather a last chance of clearing. No signs of improvement being visible, and as the snow falling thickly had obscured all view, we turned our backs on Earnslaw and began our retreat. From the point where we turned we calculated it would

have taken us three hours more to reach the first field of *névé*, our elevation above the sea being about 5,000 feet, a little over half the height of the mountain.

The ridge by which we had ascended so far would be a famous place for a bivouac. Shattered as the rocks were into great polygonal masses, piled upon one another in wild confusion, and only partially covered by the coarse herbage of the mountain, they offered numerous caves where a party might lie in perfect safety from the tempest and find plenty of dead twigs to keep up a good fire. Had the weather given us any chance of success, we might have adopted for our night's lodging a great cave into which we explored our way by the light of burning grass. But several days of fine weather must have elapsed after this present snowfall, ere the ice-slopes would be safe for climbing and the one day only was at our disposal.

Returning along the ridge we could not fail to recognise the wisdom of Mr. Birley's suggestion, about ascending the Rees valley for twenty or thirty miles from Glenorchy. So far as my experience goes, I believe an ascent from the head of the Rees would be the one most likely to prove successful. At the same time, we discovered no difficulty in the ascent by the snow arête for which we had been making. The objection to the route, so far as we explored it, was merely in the long climb it

involved from what we could look upon as our base of operations.

As we descended to lower levels the snow turned to heavy rain, which never ceased till we reached once more the shepherd's hut. On our way down we had an opportunity of admiring the splendid birch forest which on our ascent we had skirted in the dark, and Kaufmann and Boss, on seeing the profusion of timber, could not help picturing the snug *châlets* which Swiss settlers might here build for themselves.

The very idea seemed to add a new beauty to the scene, as what one misses most of all in these *oberlands* of the south, is the charming little *châlet* and the tinkle of the cow-bells. There is an incongruity in these galvanized houses which depends on something deeper than mere artistic effect. They are not suitable. Wander where you will—from the highlands of China, through the Himalaya, to the Alps, and to Norway—the *châlet*, though modified according to various types and called by other names, is the style of dwelling which natural conditions have called into existence, and which in New Zealand are not diverse from those of other mountainous countries; neither have they been so much altered by the invention of galvanized iron as some would have you believe. If the Alpine regions of New Zealand are ever to be turned to the best account, immigrants must be sought for from Alpine countries. Let men go there who are

accustomed to preserve the forests as the most precious gift of nature; let them build their homes and cultivate their little patches of ground, and then there will be a healthier life in these glens than gold-grubbing can ever bring.

Scotch shepherds are fine men, but Scotchmen could more profitably employ their time in selecting rich farms, and making homes for themselves; instead of herding sheep on the mountains. Swiss immigrants would probably feel more at home amongst the great mountain peaks than anywhere else, and land would be utilized by them which would be useless to others. What man, except a born mountaineer, would think of herding a mob of sheep on the slopes of the Wetterhorn above the Upper glacier? For ordinary mortals such land would be waste. So, also, would be those rich slopes on which the village of Albinen stands, approached by eight ladders nailed to the rock. Norway also affords many instances in which the waste places are turned to good account.

Both Swiss and Norwegians have to emigrate in thousands, there being no room for them at home. They go to America because they can go there at small cost, and because their friends have gone there before them, who can speak their language and put them up to the ways of the country. I have spoken to Swiss who have emigrated and returned to their own land, finding that America did not suit them. To turn the

tide of Swiss emigration southwards, artificial assistance would for a time be necessary. Assistance in reducing the cost of the journey is a move in the right direction, but assistance in providing German-speaking agents to take the newcomers in hand till they could manage for themselves would also be necessary. I believe the tide would soon flow without such external aids, as in New Zealand they would find the conditions of life which would suit them. Several gentlemen spoke to me of the difficulty of obtaining men capable of herding the sheep on the high ranges, and my answer was invariably, "Get Swiss."

From a business point of view I believe I was right. There is yet another point of view. If ambitious young New Zealanders, imbued with a healthy admiration of mountain beauty and affected with the desire to explore the wonders of their own icy peaks, attempt difficult climbs without experience and without guides, they will assuredly break their necks, as many others have unfortunately done. In a Swiss peasantry the very men would probably be found who would act as guides and teach the young idea how to climb, and the high Alps of New Zealand would then be as healthy a playground for Australasia as Switzerland is for Europe.

It was about 4 P.M. when we reached the hut, and our first idea was naturally to get something to eat; accordingly a piece of meat was put down to boil, and young Birley set off to look for the horses; they had

wandered to a little distance and for some time objected to being caught. Then we had dinner, and about 5.30 we set out for Glenorchy. I rode one of the horses, leaving my men and young Birley to follow in the dray. Mr. Frazer piloted us over the Rees, and setting us on a track, left us for his home. Darkness was coming on and the track often lost itself amongst groves of cabbage trees and flax. Soft peaty springs oozed from the hill-side, into one of which my horse floundered, mistaking its green surface for firm land. I had to tumble off to let him extricate himself, and got out all covered with black slime. Trusting implicitly to the guidance of our horses in the dark night which now closed in, we reached the inn about eight o'clock. The dray turned up an hour later.

Next morning the sun shone out brilliantly in a blue sky, the mountain peaks were unclouded and glistening in their robe of freshly fallen snow. While breakfast was being prepared I had time to go out and get a few negatives, lovely views presenting themselves in every direction to which I could turn the camera. Our steamer was whistling, telling us it was time to be off, so, after doing fair justice to a roast goose and bidding adieu to Mr. Birley, we took our places on board, and, steaming down the lake, we enjoyed our last and most glorious view of the glaciers of New Zealand.

What would I not have given for those weeks wasted in quarantine! how delightfully we could have put

in a fortnight's mountaineering from Glenorchy; but there was no use in vain regrets, so I dived into the little cabin of the steamer to develop my photographs. Bunging up one port-hole, putting a red cloth over the other, and pulling the hatchway to as closely as possible, I converted it into a first-rate dark room. I hope the skipper's bunk did not get more pyrogallic acid than was necessary. However it was I don't know; he may have thought the occult operations were of a dangerous character, but the result was that the said officer hastily pulled the hatchway off just as I was in the paroxysm of developing, with all my plates in a critical state, and the flood of sunlight which poured in, instantly destroyed some of my most hopeful pictures and fogged the rest. All I can say about it now is, that it was one of those occasions upon which a man may be excused for expressing his feelings more eloquently than is his wont.

The rest of our journey was quickly disposed of. We reached Queenstown at about 1 P.M. The *Mountaineer* lay alongside the wharf ready to start for Kingston. We had just time to shift our baggage on board, then, partaking of some lunch at Eichardt's Hotel, and saying farewell to Mr. Hodgkins and his party, we started for Kingston. On our way we called up the other branch of the lake to Frankton, and reached Kingston at about 5 P.M. The rabbits scampering all

about the shores of the lake in millions seemed an ill omen for their future cultivation. To evict them from their holdings in the great heaps of scree which, descending from the mountain sides, flank the lake shores in all directions, will be a work necessitating the invention of some means of destruction as yet undiscovered. Stifling them in their burrows seems at present to be the most successful method of abating the nuisance; but as we met with them up to our very highest point on the spur of Mount Earnslaw, some idea may be formed of the extent to which the rabbit has taken possession of the land.

About Kingston the vegetation is more luxuriant than are the shores of the lake for many miles from it, and, amongst groves of cabbage trees, very high clumps of *Phormium tenax* and New Zealand shrubs of various species; quantities of ferns flourish and drape the rocks, wet by the dripping of small streams and springs from the mountain sides.

Spending the night at Kingston, we next morning left by the train for Dunedin. That evening I stayed with a family who had travelled with me in the *Garonne*, and next afternoon we bade adieu to New Zealand, to its hospitable people, and its glorious scenery—I hope not for ever—and took our departure in the s.s. *Ringarooma* for Melbourne.

CHAPTER XVIII.

"My thoughts by slow gradations had been drawn
To human-kind, and to the good and ill
Of human life : Nature had led me on."

WORDSWORTH.

A backward glance.—Conclusion.

OUR voyage from New Zealand to Melbourne was a rough one, a gale of wind blowing in our teeth for nearly the whole passage. Our crowded little craft jumped and rolled and pitched in a horrible manner, and her decks were so constantly wet by the sea that little walking exercise could be indulged in; but this want of exercise was to a certain extent counterbalanced by the continual strain on one's muscles necessary to keep steady, either in one's berth or out of it.

Fortunately I had a number of sketches to work at which helped to pass the time, and after calling for a few hours at Hobart Town, and meeting a fierce gale in Bass's Straits, on the evening of March 27th we once more entered between the Port Phillip Heads.

We had an unavoidable delay of a week in Melbourne, which gave us time to visit the Bendigo diggings, and then we sailed in the *John Elder* of the Orient line for the Suez Canal and home.

The voyage promised to be a prosperous one, and I occupied the two quiet weeks which followed our departure from Australia in writing up my notes, &c. I shall, therefore, take this opportunity to answer the oft-repeated question, "What do you think of New Zealand?"

In the preceding pages I hope I have given the reader a fair picture of the grand Alpine scenery which is to be found in New Zealand so far as I saw it for myself, but I also learned a good deal about other districts which I wished to see but had not time to visit. If one had a dozen summers to spend in New Zealand I believe they could all be passed in breaking new ground, and in the enjoyment of scenery of the most varied beauty. So far as mountain ascents are concerned, I have elsewhere¹ mentioned a few which strike me as being the most interesting out of a multitude which would require a book like Ball's *Alpine Guide* to describe them adequately, and which will no doubt be written some day, when the New Zealand Alpine Club has commenced operations.

For ordinary tourists, however, the hot lake and volcanic scenery of the North Island, the rich Alpine

¹ See Appendix B.

valleys of Nelson and Marlborough, the glaciers of Canterbury and Westland and the great lakes of Otago, offer fields for many a summer ramble.

Of the lake region of Otago I had but a glimpse. Wakatipu was charming, but I have good reason to believe that lakes Manapori and Te Anau are still more beautiful; and some of the lakelets in that great forest region, reflecting from their calm bosoms the snowy peaks of the Sound ranges, are gems of natural scenery.

The district beyond the shores of lake Te Anau is still on the map marked "unexplored," and enterprising travellers will find a field for adventure in pioneering a track through that region to Milford Sound.¹

It is a good thing, no doubt, to know that a country is beautiful, but for most people who wish to leave this land and seek a home in the colonies other conditions are of paramount importance. Is New Zealand a good place to live in? This must be answered according to circumstances, and, as my time in the inhabited districts was limited, what I can say on this subject must be taken for what it is worth and no more. If the reader desires fuller information I must refer him to the numerous books which have appeared on the subject.²

¹ See p. 92.

² "A Report by Messrs. Grant and Foster, Delegates to the Colony of New Zealand, from the Tenant Farmers of Lincolnshire," published by Street and Co., Cornhill, is particularly interesting.

People must not think that all that is requisite to make a young man's fortune is to send him to the colonies; he may starve there just as readily as if he stayed at home. It not unfrequently occurs that men who have travelled first class to New Zealand have been begging their bread in the streets before two months had elapsed from the date of their arrival. If a man can't or won't do anything in the old country he can't do much in the new. He may possibly, if he is strong enough, turn his hand to work which he could not well undertake at home; if, however, he has not the sense or strength to do so, the only advantage gained by his emigration is that his friends are relieved from his importunities. One advantage that New Zealand gives to such a young man's friends is that it is farther off than any other colony, and the dangers of seeing him back are consequently reduced to a minimum.

But there is no fear of a man who can do an honest day's labour in New Zealand or anywhere else; and for the farmer who seeks a comfortable home, New Zealand is the best country in the world. The climate is favourable, there are no extremes of heat and cold, and his capital, whatever it may be, can be turned to better account than in the old country. We saw some wonderfully rich harvests being reaped, and we passed over wide tracts of rich land, owned by large land companies, which settlers can have for

rent. Some of the country is still unclaimed, and is called crown land, but all the best has been taken up.

The crown lands still unclaimed are suitable chiefly for pastoral purposes and not for agriculture, or they are covered with bush which would have to be cleared; but arrangements are being made with the natives of the North Island which will probably result in a large quantity of prime land ready to plough being placed in the market. A farmer going out now cannot, however, expect to get in New Zealand, land ready to plough on the same terms at which he would have got it had he emigrated twenty years ago. Land about Christchurch, for instance, fetches a rent quite equal to similar land at home; but a farmer starting from this country with a small capital of £1,000 or £1,500 can easily settle himself on a farm of 300 or 400 acres in the South Island by arranging with one of the land companies or with the Government on the principle of deferred payment, and have a margin left for working expenses.

In the North Island, crops which won't grow in the British Islands, such as maize, &c., give variety to agricultural pursuits. Oranges and lemons flourishing in the open air testify to the mildness of the climate. I heard of a gentleman near Auckland clearing £1,000 a year out of thirty acres of ground by growing nothing but fruit. New Zealand has also been found to be particularly suitable for the growth of hops.

I have often, in the preceding pages, alluded to the pastoral districts of the colony. In the year 1878 there were in New Zealand more than 13,000,000 sheep, and the value of the wool exported that year amounted to £3,292,807. Various breeds of sheep are maintained, but the merino is the favourite. Its wool is most valuable, and from a shepherd's point of view it is a good breed; the habit which these sheep have of running in mobs enabling him to herd them with greater ease than breeds which are not so gregarious.

Cattle are raised in large numbers, and the breed of horses has steadily improved; a really good horse can be had for £30, and of late a market has been found in Australia for horses of New Zealand breed.

For men of independent means who seek a home surrounded by what are called the luxuries of life, the more populous districts of New Zealand have many attractions. There is quite a wide circle of cultivated and refined society. And if a man wishes to settle in the country, he can farm a large tract of land with greater facility than at home, owing to the contract system which is in vogue. A teamster who keeps horses or bullocks, contracts to plough, sow, or reap a farm at so much per acre, which arrangement saves the complication of a staff of employés and the necessity of keeping a stable of farm horses. A comfortable farm on the lowlands with a sheep run in the hills

seems to me the perfection of a New Zealand establishment.

I don't think foxes have yet been acclimatised, but packs of harriers are kept in most of the populated districts, and there is an abundance of hares. Pheasants, partridges, grouse and black game are multiplying. Trout fishing is an established sport. The following result of one day's fishing by Mr. W. S. Cooke of Christchurch on the Selwyn speaks for itself: "The take was ten fish, weighing as under, $4\frac{1}{4}$ lbs., $4\frac{1}{4}$ lbs., $2\frac{1}{2}$ lbs., 3 lbs., $2\frac{1}{4}$ lbs., $4\frac{1}{4}$ lbs., $4\frac{1}{2}$ lbs., 7 lbs., 6 lbs., making a net total of $40\frac{1}{4}$ lbs."¹ The fish are reported as being strong, active, and occasionally giving half an hour's play.

So much for the surroundings of a New Zealand home. The house will probably be built of native timber with verandahs, and housekeeping is a simple affair in a country where wheat grows luxuriantly and mutton can be had for 2*d.* and beef for 3*d.* per lb.

If a man has a family to bring up the education question is one which will no doubt be anxiously considered, and it is gratifying to know that ample provision has been made in the colony ever since its foundation for perfectly free education. The school-houses are most admirable, and none but thoroughly efficient teachers are employed. There are about 800 of these board schools through the colony having

¹ *Land and Water.*

a total of nearly 2,000 teachers. When we consider that the whole population is but little over 400,000, the number of schools seems ample for the necessities of the case.

Besides these district schools, there are in the towns, superior schools also endowed by the State; and the colleges affiliated to the university of New Zealand number many eminent men amongst their professors.

When the colony was founded the maintenance of religious teaching was provided for by setting apart a certain proportion of the public lands for the endowment of parishes, and though this plan has been superseded, churches and schools have kept pace with the spread of population. In all new countries the difficulties of looking after the few families who settle in out-of-the-way places is great. A parson who takes charge of one of the up-country parishes must, therefore, be prepared to put in a fair share of riding in the course of the year, but he will probably be all the better for the exercise. According to the last census returns which I have seen, persons belonging to the Church of England number 176,337; Presbyterians, 95,103; Roman Catholics, 58,881; Wesleyans, 37,879, and the remaining portion of the population is included in smaller numbers under twelve different denominations.

I have now endeavoured to give a brief sketch of colonial life, principally with regard to its advantages,

but it would be a one-sided view if I did not say something on the other side. I have just been speaking of the educational advantages, which are unquestionably great, but I could not help seeing that in spite of the excellence of the teachers, and in spite of their acknowledging and contending against the difficulty, the fact remains, that boys or girls brought up in the colony, are as a rule, very "provincial" in their manners and ideas. This is not owing to any fault on the part of the teaching staff, nor is it peculiar to New Zealand; it is a necessity of a small community, where a mixture of children is unavoidable, and where wealth has preceded culture. I would not for a moment wish to say that the mere varnish of refined manners is worth much in colonial life or anywhere else, though after all be said, it is a great charm. But a high sense of honour amongst boys is a very decided advantage, and it occasionally happens that when this virtue is not valued at home it is not recognised at school, and the general tone of juvenile associations is lowered. Several parents with whom I conversed acknowledged this to be the case, and proved their belief by sending their children home to England to be educated. But every day the difficulty is decreasing, and in Christchurch a resolute effort is being made to provide such training as may render the sending of children home quite unnecessary.

The very use of the word "home" brings to my mind another consideration. Colonists always speak of the

country of their fathers as "home," which means that they live in expectation of some day or other visiting the old country. This expectation, whether it is ever fulfilled or not, is an important factor in their happiness.

To a New Zealand colonist the chances of gratifying this desire, except at great expense, are few indeed; and this I consider is the greatest objection to choosing New Zealand as a residence. Many who try emigration don't realise, till the step has been taken, the severance of the home ties that it implies, and the difficulty after one passes boyhood of forming new associations. Then before the new country has been given a fair trial they get dissatisfied and wish to return. Emigration however is a necessity, and many must practise this kind of self-denial in order to gain a livelihood and leave elbow room for those who are obliged to stay at home. The question for each man to decide is: Am I one of the many who ought to go? And if he decide in the affirmative let him bravely accept the conditions of such a move.

I have already said much about the salubrity of the New Zealand climate, but no doubt to many who emigrate it would be quite a loss to be suddenly cut off from that most fruitful of all topics of conversation—the weather! I can comfort them by saying that New Zealanders have something to grumble about on this point. The summer days are sometimes very warm, particularly in the North Island; and in Otago a

southerly gale in winter with rain and snow is an experience to be remembered. But cinerarias can live out the winter in Dunedin gardens, so that though over coats are worn, the severest winter must be milder than the mildest in the British Islands.

The great topic for weather-grumblers in Canterbury is the hot winds.¹ These gales sweep down from the mountains and over the flat plains with terrible energy. The high temperature which they bring with them is most disastrous to the farmer if it comes before harvest, as it suddenly and prematurely ripens the corn, and at the same time scatters the grain with the fury of the blast. However, these "nor-westers" are not of very frequent occurrence, nor do they ever last for more than two or three days at a time.

While glancing back at the Britain of the south our good ship has been driving northwards before the trade wind. When nearing the line we expected calm weather, but in this were disappointed, as a sudden

¹ Most mountainous countries experience winds of this nature; the Föhn winds in Switzerland are a familiar illustration. In the case of New Zealand, the nor'-wester leaves Australia as a dry, hot wind. Absorbing moisture on the way it reaches the New Zealand coast as a wet wind. In ascending the western slopes of the Southern Alps it parts with its moisture, but the liberation of hydrogen counteracts the cooling effects of expansion as it passes over the high ridges of the mountains, so that on plunging down to the denser levels of the Canterbury plains it is drier but hotter than it was when ascending the western slopes. It was in the hope of meeting with conditions of this nature that Baron Nordenskiöld started for the exploration of central Greenland.

squall, shift of wind and a fall in the barometer warned us to look out for a cyclone. Sheets were let go and all sails stowed with much speed, and after a few observations of the barometer the ship's course was altered, so that we might miss the centre of the disturbance. The centre did fortunately pass to the northward, but we fell in with the outskirts of the storm, which raised such a heavy sea that the engines had to be slowed down, and we thus lost two days. Big seas thundered over the bows, killed our cows, and washed some sheep overboard. All ports were screwed up tight, and so, with the cabins as hot as ovens, we crossed the line.

On April 30th we passed Cape Guardafui and entered the Red Sea. The burnt-up volcanic islands were a contrast to the green hills of New Zealand, but were interesting from their strange tints, and made good studies for sketching in water colours. The air was clear and the sea smooth, so our progress was rapid; but the number of wrecks of fine ocean steamers which lay in every position on the dark lava rocks, spoke sadly of the danger of this great highway, when fogs prevail.

The heat was of course very great, and as we had 600 souls on board the scene at night was strange, as every one who could find room slept on deck, a notice having been posted up reserving the port side for ladies and the starboard for gentlemen. Numbers of doves roosted

every night in our rigging, and during the day various pretty land birds sought shelter on the ship from large hawks which soared over the mast heads.

I was much interested in being able to make a sketch of the Sinai range, which was quite unclouded. After a delay of an hour at Suez we entered the Canal. We halted for the first night in the Great Bitter Lake, and next night at 10 P.M. we reached Port Said. This being our first chance of setting foot on shore since we left Australia, most of the passengers took advantage of it, and as coaling went on all night the shops did a fair trade with the passengers.

The general impression gained of the outcasts of Israel who trade in this Land of Goshen was not very favourable. Some baskets of shells and fine specimens of tubular coral just out of the sea which they offered for sale, were to me the most interesting objects, and could not possibly have originated in Birmingham.

A few days later the *John Elder* lay at anchor in the Bay of Naples. Boss and Kaufmann were now to land. I wrote a note for Kaufmann in his guide's book. I said what I could in his favour without taking up too much space in his book, but I could not say too much, for nothing could have been more admirable than his conduct from beginning to end; and if even there were no mountains in the question, I could not have found two better companions for any journey in the world. I

landed with them, and after a hearty farewell they started for Rome—the next evening they would be in sight of their own Alpine snows.

I wished that I could go through Switzerland so that I might make a trip on the glaciers for the sake of comparison, while New Zealand was fresh in my mind, but other thoughts were hurrying me home.

About 4 P.M. we once more sailed from Naples, and at 2 A.M. on the morning of Saturday May 20th we landed at Plymouth after what had been a prosperous and enjoyable voyage. Travelling on without delay I reached home just in time to take the morning service in my own church on the 21st; a week later I had resumed all my old home life and occupations, and the past six months, with all the events recorded in these pages, seemed like a pleasant dream.

APPENDICES.

APPENDIX A.

(1) Explanation of terms.—(2) First principles of mountain climbing.

(1.) IN the preceding pages I have attempted to write so that I might be understood by those who are unacquainted with "mountain craft." However, it would have been useless to have attempted altogether to avoid technical phrases, and as my book may chance to fall into the hands of those who don't know much, but wish to know more of mountains and mountaineering, I here subjoin a brief explanation of what may be called technical terms. And I also offer a few words of advice to those who, perhaps in New Zealand, may be induced to try their hand at Alpine travel.

Mountains may be of various forms, but a typical mountain peak is a point where several rugged ridges meet. A ridge such as one of these, with precipices on either side, is in Alpine language called an *arête*. The precipices on either side of an *arête* are seldom smooth planes, but present an array of buttresses of rock,

alternating with gullies; a steep narrow gully of this description is usually called a *couloir*.

If there is no snow on the mountains these couloirs would, near the bottom, be found filled with heaps of stones, which the action of frosts and sunshine had loosened from the ridges above.

Let us now imagine such a peak to be raised into the region where more snow falls in the year than can be melted by the summer sun, and let us see what happens. The snow clings where it can, and piles itself up wherever any flattish place occurs. If the *arête* is very sharp, the snow is blown off, and it continues to be a *rock arête*; if it is sufficiently wide, the snow accumulating, covers up the crags and it becomes a *snow arête*. The top of a snow *arête* nearly always curls over towards one side or the other, and with a lovely fringe of immense icicles, forms an overhanging *cornice*. The snow blown from the rock ridges packs into the couloirs, and when it has accumulated to a certain extent, masses of it fall as *avalanches* down the mountain-sides. It is therefore in the hollows at the bases of the high ridges that the snow accumulates to the greatest extent and here *glaciers* begin to form.

When snow is in the transition stage, between soft snow and clear hard ice, it is called *névé*; the ice spoken of on the higher ridges is generally of this nature.

Wherever snow can accumulate in great quantities the weight of the superincumbent mass causes the

lower layers to become ice. (For a full explanation of the process of regelation, and of glacier phenomena in general, I must refer the reader to Professor Tyndall's *Forms of Water, &c.*, and Professor Geikie's *Physical Geography*.) If the unmelted snow lay where it fell year after year, the mountains would increase in height, but such is not the case. Ice moves as if really viscous, and when it attains to a certain thickness it flows down the valley like a river, moving more rapidly, often at the rate of several feet per day near the centre, and more slowly at the sides, where it is retarded by friction.

When a glacier plunges over a declivity in its course its surface becomes cut across by deep clefts called *crevasses*. If the fall is very sudden the surface is entirely broken up into cubes and pinnacles of ice called *séracs*. The crevasses which have formed when the glacier flowed over a convex surface close up again when the bed of the glacier becomes concave. When a crevasse seems to be a complete fracture of the whole mass of ice so that one side settles down to a lower level than the other it is usually spoken of as a *bergschrund*.

As the ice stream moves down the valley, it receives on its surface the rocks and stones which fall from the cliffs bounding its course, and these piles of *débris* on the sides of a glacier are called the *lateral moraines*.

When glaciers from branching valleys meet and form

one stream, the lateral moraines next to one another unite and form a *medial moraine* down the middle of the great trunk glacier formed by the union. All the *débris* brought down by the glacier is deposited at its lower termination where the heat of the valley overcomes the powers of frost and snow, and a *terminal moraine* is formed, through which from an ice cave, issues a stream of water which carries all the drainage of the glacier to the sea. Many of the largest rivers of Europe have their sources in glaciers.

(2.) When we penetrate into these fastnesses of ice and snow, we find ourselves face to face with many dangers and difficulties which are not met with in ordinary travel, and special experience of them is necessary in order that we may recognize, and know how to avoid them. What seem at first sight to be the greatest difficulties are often not difficulties at all, and on the other hand, the ignorant may get into great danger without recognizing it as such.

Let us imagine ourselves for the first time on a glacier. Its lower portion may present a series of deep and wide fissures and chasms with sides of slippery ice. This all may seem very terrible, but there is no particular danger, as, why should any intelligent person tumble into a big hole which he sees plainly before him? Let us now imagine ourselves far up, near the source of that same glacier: its surface is a smooth gently undulating surface of snow. There may be a few

blue fissures in sight here and there, but all the rest promises easy walking. We proceed to tramp across its spotless surface, when—down we go! our legs are kicking about in space, but we are stuck in the layer of snow. We struggle to get on to the surface of the snow, but we only make the hole wider, and, slipping through, there is an end of us, so far as this world is concerned.

Safety under such circumstances depends upon a party consisting of three or more persons being tied together, about twenty feet apart, by a *rope*, (for three or four persons the rope should be about sixty feet long,) and upon their walking so that they may *keep the rope fairly tight* between each individual, and at right angles to the trend of the crevasses, which usually cross the glacier in gently curved lines. If these precautions are observed, there is absolutely no danger in traversing such a snow field, but no such snow field ought ever to be trusted without taking these precautions, no matter how solid and secure it may seem. When the layer of snow bridging a crevasse looks doubtful, it may be consolidated by beating its surface with the alpenstock or axe, but, unless a party has had good experience, they had better give up their expedition on the safe side of such a passage. When snow slopes become steep, and steps have to be cut, the rope is still of service in guarding against a slip; each of the party ought to have an *ice-axe* with which to hold on, using it as an anchor at

every step and the most experienced and cautious of the party should lead. When climbing becomes at all difficult or dangerous only one should move at a time, while the others hold on.

On rocks the rope is useful, if cautiously managed, to save any member of the party from the result of a slip, and though often delay is caused in clearing it of crags, it just as often enables a party to get along faster, as, if you see that your companions are in a safe position, you need not be so careful in crossing a bad step as you otherwise should. Let all however remember, when they begin to climb, that it is much easier to go up than to come down; nearly all the worst accidents have occurred in descending. And a man should never go up without considering his descent at every step.

Besides the danger of crevasses, slipping on snow-slopes or on rocks (which latter seems, according to statistics, to have been the most fruitful source of Alpine disaster), the dangers from avalanches falling from cornices and from overhanging glaciers must be considered. Their tracks can usually be seen from below. Such places should be avoided altogether, or, if traversed, it should be in the early morning, before the sun has shone on that side of the mountain. It is in the afternoon that avalanches fall most frequently. After a recent fall of snow mountain peaks are in a particularly dangerous condition, for, until the new snow has consolidated, it often slides

downwards on the icy surface beneath, and if men have trusted themselves to such treacherous footing they will probably be shot into a crevasse, or over a precipice, or smothered at the foot of the slope. This is, I think, of all dangers the one most likely to be ignored by the inexperienced.

Supposing that the crest of a high arête is gained, a new danger is encountered ; the snow, as I said before, usually curls over into a cornice. Now the top of this cornice is the easiest place to walk on, but it ought by all means to be avoided, as, being unsupported from below, it is almost certain to break off with the unwonted weight of a party walking on it. In such a situation the steps must be cut on the slope twelve or twenty feet away from the crest, on ice supported by the solid rock beneath.

Under any circumstances the rope is useless unless kept tight, as, if one man slips he will probably pull the next man after him, unless he is supported by the man beyond him again bearing some of the strain. Or even when the party is so small that this does not apply, the first chuck of a slip is made much more severe by the man falling having some feet to go before the rope comes taut.

The essentials of an Alpine outfit, besides the rope and ice-axe, are strong boots well padded with nails, and blue glasses to save the eyes from snow-blindness ; these should be fitted with an elastic band to go round

the head. A pocket compass is sometimes an essential, and ought always to be taken.

Climbing with guides and without guides has often been discussed. In the European Alps I have climbed with guides and without guides. The pleasure experienced in finding one's own way over a glacier pass is very great, while following a guide who knows every step of the way does certainly take from some of the interest. One celebrated party of amateurs has succeeded in making all the most difficult European ascents without guides. But on unexplored ground professional guides know no more of the district than any other member of the party. And so their presence detracts nothing from the interest of exploration. The chances of getting together, and organising for a long expedition, a party consisting altogether of amateurs of such skill that the party may be counted a strong party are very remote. And to put the case strongly—if I should, through the breaking of a snow bridge, find myself dangling by a rope below the overhanging lip of a deep crevasse, I should feel more confident of being got out, if a man like Ulrich Kaufmann was on the rope, than if I was accompanied by the best amateurs that ever lived. Inexperienced amateurs are a source of danger to any party, and should only be taken where the difficulties are well known, and not serious.

A great deal of the experience necessary is gained by men whose vocations lead them into the mountains or

along the sea cliffs, as shepherds, or miners, or sportsmen. To men thus employed the difficulties of mountaineering are very slight. To acquire a knowledge of the new sources of danger is all that is required. And many fine expeditions in New Zealand might be attempted by such amateurs (the peaks of the Malte Brun range, for instance) if precautions were attended to.

Bad weather should always be shunned, as it intensifies all dangers. I will conclude these notes with a quotation from Mr. Mathew's paper on Alpine accidents in the *Alpine Journal* for November, 1882:

"Men get careless and too confident. This does not matter, or the other does not matter. The fact is, that every thing matters; precautions should not only be ample but excessive."

APPENDIX B.

For Mountaineers.

THOUGH Mount Cook has the special honour of being the highest peak in Australasia, there are many other peaks in the Southern Alps which may be more difficult, quite as well worth climbing, and whose topographical details are yet unknown to the world.

Mount Sefton I place first, as of all the great peaks it is the one most easily got at. Starting from Birch Hill, a party might reach a camping place in two easy days on the Mueller Glacier, from which its lower cliffs might be scaled, an upper plateau reached, and from there the great rock arête could be attacked. It should not be attempted by a party which did not feel equal to face such a mountain as the Schreckhorn.

To the northward of Mount Cook *Mount Tasman*, a glorious glacier-clad peak, with a "Silberhorn" on its southern shoulder, was one which we often discussed. To ascend this peak the route would be the same as for Mount Cook as far as the "Great Plateau." From there the mountain could be inspected and choice made as to

route. I think the northern side seemed most practicable, but avalanche tracks are innumerable. The other grand peaks round the head of the Tasman Glacier I have often alluded to. They are all probably over 11,000 feet high, and from a mountaineering point of view quite equal to peaks of 13,000 and 14,000 feet in Switzerland, the glacier line in New Zealand being so much lower.

The Malte Brun chain possesses one most remarkable rock peak which promises a splendid climb.

To the northward of the Tasman Glacier we come to the region of the Classen and Godley Glaciers, which could be approached from Lake Tekapo. Mount Tyndall is the culminating peak of this district, and he and his ice-clad neighbours form a grand array of peaks. I cannot attempt any classification of these mountains, as my view of them was much too distant.

Glacier passes may in the future be made from the Hooker Glacier, over the main range to the Balfour Glacier and the west coast, or else over the Col between Mount Haidinger and Mount de la Bêche to the Franz Joseph Glacier, or from the head of the great Tasman Glacier to the head waters of the Wataroa.

The western slopes of the Southern Alps are but little known,¹ so there is no saying how difficult these passes may be.

¹ See an interesting paper by Mr. S. H. Cox, F.C.S., F.G.S., on "The Western Flanks of Mount Cook," published in the *Transactions of the New Zealand Institute*, vol. ix. p. 577. Also his map published in the *Report of Geological Survey of New Zealand for 1874-6*, p. 67.

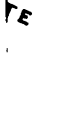
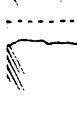
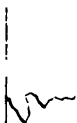
In Otago, Lake Wakatipu is a good base for many expeditions amongst mountains quite as interesting as those of the Tyrol. From Wakatipu, Lake Wanaka is easily reached, and in its vicinity Mount Aspiring promises a splendid reward for the mountaineer; it is 10,000 feet high, and its pointed peak culminates in a long arête rising above a great glacier basin.

Another interesting field for mountaineering exists in the north of the South Island in the provinces of Nelson and Marlborough.

Without attempting to write out a complete list I have mentioned those expeditions which to me seem worthy of first attention.¹

The *season* for mountaineering is the latter half of February and the whole of March. Earlier than that the rivers are swollen, travelling in the mountain valleys is impossible, and the weather is wet and stormy. I believe much more snow falls on the New Zealand mountains than on the Alps of Switzerland, but when the fine weather does come it is more continuously fine.

¹ Interesting details of the mountain ranges and glaciers will be found in Dr. Julius von Haast's *Geology of Canterbury*, and Professor Hutton's *Geology of Otago*. The best map of the Southern Alps is that by Von Haast, engraved by the R.G.S., and to be found in the *Alpine Journal* (Longmans), vol. xi. No. 77.



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